GENERAL PLUMBING PLAN NOTES

1. THE ENTIRE PLUMBING SYSTEM SHALL CONFORM TO ALL VA STANDARDS AND THE LATEST EDITION OF THE COLORADO PLUMBING CODE..
2. THE ENTIRE PROJECT AREA WILL PROTECTED BY A WET PIPE SPRINKLER SYSTEM. REFERENCE THE FIRE PROTECTION DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND SHALL PROVIDE ANY NECESSARY OFFSETS, REROUTING, ETC. REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.
4. ALL EXISTING PIPING SHOWN ON THE DOCUMENTS ARE FROM FIELD OBSERVATIONS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE EXACT LOCATION, SIZE AND ELEVATION OF ALL EXISTING PIPING PRIOR TO START OF NEW WORK.
5. SEE SHEET P-001 FOR ADDITIONAL INFORMATION.

PLUMBING PLAN NOTES

(1) CONNECT NEW PIPING TO EXISTING. FIELD VERIFY EXACT SIZE AND LOCATION.

(2) CONNECT NEW FLOOR DRAIN TO EXISTING SANITARY PIPING AS REQUIRED. FIELD VERIFY EXACT SIZE AND LOCATION OF PIPING PRIOR TO START OF NEW WORK.

GENERAL PLUMBING DEMOLITION NOTES

1. THE ENTIRE PLUMBING SYSTEM SHALL CONFORM TO ALL VA STANDARDS AND THE LATEST EDITION OF THE COLORADO PLUMBING CODE.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CUTTING EXISTING WALLS AND FLOOR SLABS. IF EXISTING TO REMAIN SERVICES ARE CUT / DAMAGED, IT IS THE CONTRACTORS RESPONSIBILITY TO PATCH AND REPAIR THE SERVICE AT NO ADDITIONAL COST TO THE OWNER.
3. CONTRACTOR IS TO REMOVE ALL EXISTING PLUMBING SYSTEMS MADE OBSOLETE BY NEW CONSTRUCTION INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ALL WATER, WASTE AND VENT PIPING, FIXTURES, TRIM, ACCESSORIES, ETC... REFERENCE THE ARCHITECTURAL DEMOLITION DOCUMENTS AND FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID AND INCLUDE ALL COSTS IN BID.
4. ALL EXISTING SANITARY PIPING TO REMAIN IS TO BE CLEANED AND RODDED AS REQUIRED TO ENSURE PROPER FLOW. PIPING SHOWN AS DASHED IS TO BE REMOVED COMPLETE INCLUDING ALL HANGERS AND SUPPORTS.
5. CAP ALL OBSOLETE WASTE PIPING BELOW THE SLAB, WATER PIPING BACK AT MAINS, VENT PIPING ABOVE FINISHED CEILINGS. PATCH ALL FLOORS, WALLS AND CEILINGS AS REQUIRED TO MEET FIRE RATING AND TO RECEIVE NEW FINISHES.
6. REFERENCE THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS FOR THE WALL CONSTRUCTION TYPES, FIRE RATING INFORMATION, ASBESTOS ABATEMENT AND ICRA REQUIREMENTS.

PLUMBING DEMOLITION PLAN NOTES

(1) EXISTING PLUMBING FIXTURE ABOVE TO BE REMOVED COMPLETE. SEE 2/PP102. REMOVE WATER, WASTE, VENT PIPING AND ASSOCIATED TRIM COMPLETE. REFERENCE ARCHITECTURAL DETAIL SHEETS FOR WALL DEMOLITION AND PATCHING DETAILS. HOLES IN FLOOR SLABS MUST BE TEMPORARILY FIRE STOPPED UNTIL A PERMANENT FIRE STOP HAS BEEN INSTALLED. REFERENCE ARCHITECTURAL DETAIL SHEETS FOR PROPER PATCHING AND SEALING METHOD.

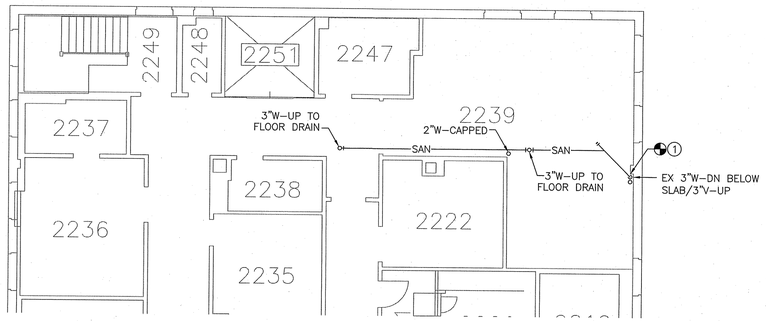
(2) REMOVE EXISTING PIPING TO POINT INDICATED. FIELD VERIFY EXACT SIZE OF PIPE PRIOR TO START OF WORK.

(3) REMOVE EXISTING PIPING, ASSOCIATED FITTINGS, HANGERS AND SUPPORTS COMPLETE. CUT AND PATCH WALLS, FLOORS AND CEILINGS AS REQUIRED FOR ACCESS, ABATE ASBESTOS INSULATION WHERE APPLICABLE AND PATCH WALL, FLOOR AND CEILING TO MATCH EXISTING CONSTRUCTION. HOLES IN FLOOR SLABS MUST BE TEMPORARILY FIRE STOPPED UNTIL A PERMANENT FIRE STOP HAS BEEN INSTALLED. REFERENCE ARCHITECTURAL DETAIL SHEETS FOR PROPER PATCHING AND SEALING METHOD.

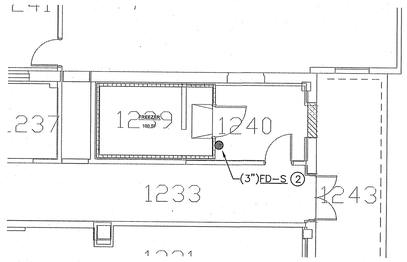
(4) CAP SANITARY PIPING AT HIGHEST ELBOW.

(5) PIPING IN THIS AREA IS ABOVE A PLASTER CEILING. NO EXISTING DRAWINGS OF THIS AREA ARE AVAILABLE. PLUMBING CONTRACTOR TO REMOVE FLOOR DRAIN STRAINER AND DRAIN BODY ON THIRD FLOOR TO BELOW THIRD FLOOR SLAB AND THEN CAP AND SEAL PIPING AIR TIGHT.

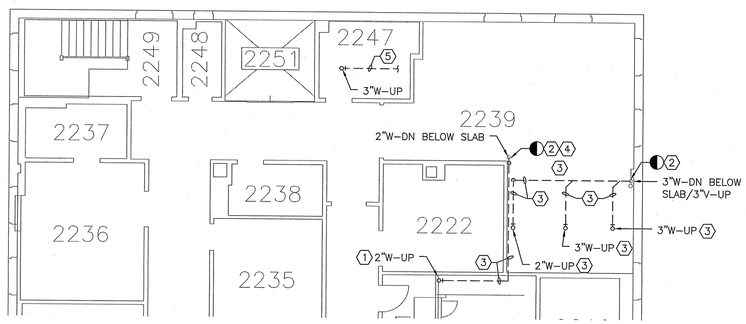
(6) REMOVE EXISTING FLOOR DRAIN BODY COMPLETE. REWORK EXISTING SANITARY PIPING AS REQUIRED TO ACCOMMODATE NEW FLOOR DRAIN TO BE INSTALLED AS PART OF NEW WORK. THIS INCLUDES SAW CUTTING THE FLOOR, PATCHING AND REPAIRING THE FLOOR, ETC.



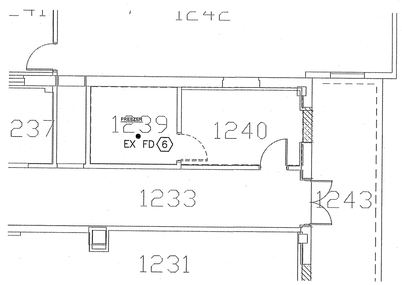
4 SECOND FLOOR PLUMBING PLAN
SCALE: 1/8" = 1'-0"



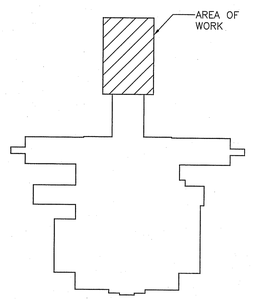
2 FIRST FLOOR PLUMBING PLAN
SCALE: 1/8" = 1'-0"



3 SECOND FLOOR PLUMBING DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



1 FIRST FLOOR PLUMBING DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



BUILDING KEY PLAN
SCALE: N.T.S.

REVISIONS

REVISION NO.	DATE	REMARKS

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GRAND JUNCTION VAMC
DIETETICS - REPLACEMENT OF REFRIGERATORS AND FREEZERS
Dept. of Veterans Affairs 2121 North Avenue Grand Junction, CO 81501
100% CONSTRUCTION DOCUMENTS

DESIGNED:	DRAWN:
ACK	ACK
APPROVED:	CHECKED:
DMB	DMB

CLIENT PROJECT NUMBER
575-14-100
PROJECT NUMBER
13.1069
DATE
09/26/2014

FIRST AND SECOND FLOOR PLUMBING PLAN
PP101

PLUMBING LEGEND

Symbol	Description
——— – ——— – ———	DOMESTIC COLD WATER, COLD WATER
——— – – ——— – – ———	DOMESTIC HOT WATER, HOT WATER
——— – – – ——— – – – ———	DOMESTIC HOW WATER RETURN, HOT WATER RETURN
--- MA --- MA --- MA ---	MEDICAL AIR
— MV — MV — MV —	MEDICAL VACUUM
--- LA --- LA --- LA ---	LABORATORY AIR
— LV — LV — LV —	LABORATORY VACUUM
— OA — OA — OA —	ORAL EVACUATION
--- IA --- IA --- IA ---	INDUSTRIAL AIR
— D — D — D —	DRAIN
—SAN—SAN—SAN—	SANITARY SEWER
— SS — SS — SS —	SANITARY SEWER (OPTIONAL)
---SAN---SAN---SAN---	SANITARY SEWER, BELOW GRADE
— SD — SD — SD —	STORM WATER
--- SD --- SD --- SD ---	STORM WATER, BELOW GRADE
—SCW—SCW—SCW—	SOFTEN COLD WATER
—FCW—FCW—FCW—	FILTERED COLD WATER
—DWS—DWS—DWS—	DRINKING WATER SUPPLY
---DWR---DWR---DWR---	DRINKING WATER RETURN
—TWS—TWS—TWS—	TEMPERED WATER SUPPLY
---TWR---TWR---TWR---	TEMPERED WATER RETURN
— N₂O — N₂O — N₂O —	NITROUS OXIDE
— O — O — O —	OXYGEN
— N₂ — N₂ — N₂ —	NITROGEN
— NG — NG — NG —	NATURAL GAS
--- NG --- NG --- NG ---	NATURAL GAS, BELOW GRADE
—FOD—FOD—FOD—	FUEL OIL DISCHARGE
—FOS—FOS—FOS—	FUEL OIL SUPPLY
—FOV—FOV—FOV—	FUEL OIL VENT
---FOR---FOR---FOR---	FUEL OIL RETURN
	SANITARY SEWER PIPING (W)
	VENT PIPING (V)
	PIPE TURNS UP
	PIPE TURNS DOWN
	EXISTING SANITARY SEWER PIPING (W)
	EXISTING VENT PIPING (V)
	EXISTING COLD WATER PIPING (CW)
	EXISTING HOT WATER PIPING (HW)
	EXISTING HOT WATER RETURN PIPING (HWR)
	EXISTING PIPE TURNS UP
	EXISTING PIPE TURNS DOWN
	GATE VALVE
	GLOBE VALVE
	GATE VALVE WITH 3/4 " HOSE ADAPTER
	CHECK VALVE
	ANGLE GLOBE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	MODULATING CONTROL VALVE
	TWO POSITION CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
	THREE-WAY TWO POSITION CONTROL VALVE
	PRESSURE REGULATING VALVE
	AUTOMATIC FLOW CONTROL VALVE
	PRESSURE RELIEF VALVE
	MANUAL AIR VENT
	TEST PLUG (PRESSURE/TEMPERATURE)
AV	AUTOMATIC AIR VENT
	UNSPECIFIED VALVE
	CLEANOUT ON GRADE (GCO)
	CLEANOUT IN FLOOR OR SLAB (FCO)
	TIE POINT INTO EXISTING
	FLOOR DRAIN (FD)
	SURGE ARRESTOR
	FLOOR SINK
	VACUUM INLET
	LIMIT OF DEMO
	CONDENSATE TUNNEL

PLUMBING ABBREVIATIONS

A/E	ARCHITECT / ENGINEER
AD	AREA DRAIN
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AG	AIR GAP
AP	ACCESS PANEL
AS	AUTOMATIC SPRINKLER
ASD	ADJUSTABLE SPEED DRIVES
ASD	AUTOMATIC SPRINKLER DRAIN
ASHRAE	AMERICAN SOCIETY HEATING, REFRIGERATION, AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY PLUMBING ENGINEERS
ASR	AUTOMATIC SPRINKLER RISER
AV	ACID VENT
AW	ACID WASTE
BFP	REDUCED PRESSURE BACKFLOW PREVENTER
BHP	BREAK HORSEPOWER
BSP	BLACK STEEL PIPE
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CELSIUS
CGA	COMPRESSED GAS ASSOCIATION
CI	CAST IRON
CO	CLEANOUT
CS	CLINICAL SINK
CV	CONTROL VALVE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DHWR	DOMESTIC WATER RETURN
DHWS	DOMESTIC HOT WATER SUPPLY
DI	DEIONIZED WATER
DN	DOWN
DOE	DEPARTMENT OF ENERGY
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWR	DRINKING WATER RETURN
DWS	DRINKING WATER SUPPLY
DWV	DRAIN WASTE VENT
EL	ELEVATION
EMCS	ENERGY MONOSERRAT AND CENTRAL SYSTEM
EPA	ENVIROMENTAL PROTECTION AGENCY
EPACT	ENERGY POLICY ACT
ESC	ESCUTCHEON
ESH	EMERGENCY SHOWER
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EWS	EYE WASH STATION
EX	EXISTING
F	FAHRENHEIT
FCO	FLOOR CLEANOUT
FCW	FILTERED COLD WATER
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT (HOSE) CONNECTION
FM	FLOW METER
FOP	FUEL OIL PUMP
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FS	FLOOR SINK
FS	FLOW SWITCH
FU	FIXTURE UNITS
GAL	GALLON
GCO	GRADE CLEANOUTS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GRS	GAS REGULATOR STATION
GT	GREASE TRAP
GVTR	GAS VENT THROUGH ROOF
GWH	GAS FIRED WATER HEATER
H&CW	HOT AND COLD WATER
HB	HOSE BIBB
HD	HUB DRAIN
HEX	HEAT EXCHANGER
HP	HORSEPOWER
HS	HAND SINK
HST	HOT WATER STORAGE TANK (DOMESTIC)
HWB	HOT WATER BOILER
HWCP	HOT WATER CIRCULATING PUMP
HWP	HOT WATER PUMP
HYD	HYDRANT
ICW	INDUSTRIAL COLD WATER
INV	INVERT
IPC	INTERNATIONAL PLUMBING CODE
IRW	IRRIGATION WATER
IW	INDIRECT WASTE
IWH	INSTANTANEOUS WATER HEATER
IWR	INDUSTRIAL WATER RETURN
IWS	INDUSTRIAL WATER SUPPLY
KW	KILOWATT
KWHR	KILOWATT-HOUR
L/S	LITER PER SECOND
LA	LABORATORY AIR
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LCW	LABORATORY COLD WATER
LHW	LABORATORY HOT WATER
LNG	LIQUID NATURAL GAS
LOX	LIQUID OXYGEN
LV	LABORATORY VACUUM
LW	LOW WATER
M	METER
MA	MEDICAL AIR
MAV	MANUAL AIR VENT
MBH	1000 BTUH
MED	MEDICAL
MER	MECHANICAL EQUIPMENT ROOM
MH	MANHOLE
MOU	MEMORANDUM OF UNDERSTADING
MSB	MOP SERVICE BASIN
MV	MEDICAL VACUUM
N2	NITROGEN
N20	NITROUS OXIDE
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM.	NOMINAL
NPW	NON POTABLE WATER
NTC	NOT TO SCALE
O2	OXYGEN
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OR	OPERATING ROOM
OVFL	OVERFLOW
PA	PASCAL
PD	PRESSURE DROP OR DIFFERENCE
PDI	PLUMBING AND DRAINAGE INSTITUTE
PG	PRESSURE GAGE
PP	PLUMBING PUMP
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ATMOSPHERE
PSIG	POUNDS PER SQUARE INCH GAUGE
PTRV	PRESSURE TEMPERATURE RELIEF VALVE
PW	POTABLE WATER
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RL	ROOF LEADER
RO	REVERSE OSMOSIS WATER
RWL	RAIN WATER LEADER
SAN	SANITARY SEWER
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SCFM	STANDARD CUBIC FOOT/MINUTE
SCW	SOFTENED COLD WATER
SDMH	STORM DRAIN MANHOLE
SP	SUMP PUMP
SPR	SPRINKLER LINE
SQFT	SQUARE FEET
SS	STAINLESS STEEL
ST	STORAGE TANK
SW	STORM WATER
TCV	TEMPERATURE CONTROL VALVE
TD	TEMPERATURE DIFFERENCE
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TSTAT	THERMOSTAT
TWR	TEMPERED WATER RETURN
TWS	TEMPERED WATER SUPPLY
TYP	TYPICAL
UPC	UNIFORM PLUMBING CODE
V	VENT
VAC	VACUUM
VB	VACUUM BREAKER
VCO	VACUUM CLEANER OUTLET
VP	VACUUM PUMP
VS	VENT STACK
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WG	WATER GAGE
WH	WALL HYDRANT
WH	WATER HEATER
WHA	WATER HAMMER ARRESTER
WL	WATER LINE
WM	WATER METER
WPD	WATER PRESSURE DROP
WS	WASTE STACK
YCO	YARD CLEANOUT
YH	YARD HYDRANT

GENERAL NOTES AND SPECIFICATIONS

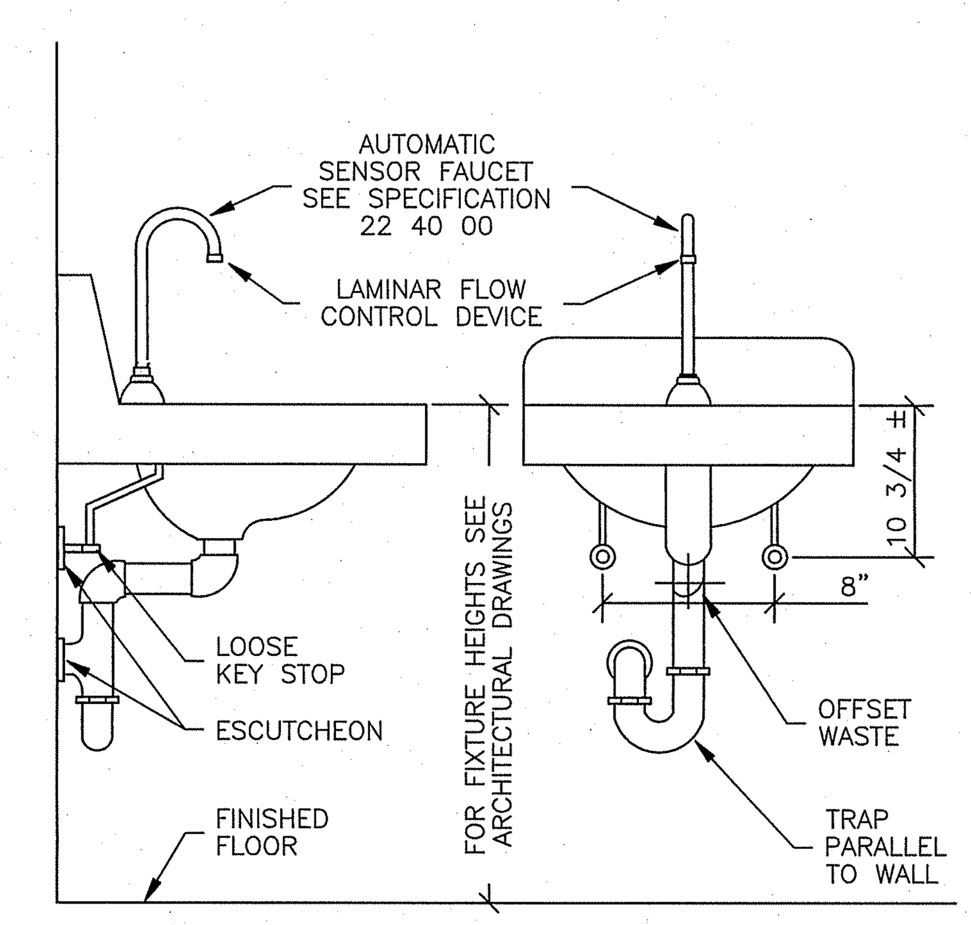
1. THE ENTIRE PLUMBING SYSTEM SHALL CONFORM TO ALL VA STANDARDS AND THE STATE OF COLORADO PLUMBING CODE.
2. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND SHALL PROVIDE ANY NECESSARY OFFSETS, REROUTING, ETC. REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.
3. THESE PLANS ARE DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSET, TEES, ELBOWS, ETC FOR A COMPLETE WORKING PLUMBING SYSTEM.
4. ALL DOMESTIC WATER PIPING SHOWN IS LOCATED ABOVE CEILING OR WITHIN WALLS UNLESS NOTED OTHERWISE. NO EXISTING PLUMBING DRAWINGS EXIST. PIPING SHOWN IS FROM FIELD OBSERVATIONS.
5. ALL SANITARY SEWER PIPING SHOWN IS LOCATED BELOW GRADE OR WITHIN WALLS UNLESS NOTED OTHERWISE. ALL SANITARY VENT PIPING SHOWN IS ABOVE CEILING/WITHIN WALLS UNLESS NOTED OTHERWISE.
6. ALL PIPING SYSTEMS SHALL BE SUPPORTED AS REQUIRED BY THE COLORADO PLUMBING CODE ALONG WITH ALL VA STANDARDS & MANUFACTURER'S RECOMMENDATIONS.
7. ALL PIPING PENETRATIONS THRU NEW/EXISTING WALLS/FLOORS SHALL BE SEALED TO EQUAL THE RATING OF THE NEW/EXISTING WALL OR FLOOR.
8. ALL PLUMBING SYSTEMS SHALL BE TESTED AS REQUIRED BY THE COLORADO PLUMBING CODE ALONG WITH ALL VA STANDARDS.
9. THE PLUMBING CONTRACTOR SHALL COORDINATE ALL UNDERGROUND PLUMBING PIPING WITH ALL STRUCTURAL FOUNDATIONS.
10. THE ENTIRE DOMESTIC WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE TO THE COLORADO PLUMBING CODE ALONG WITH ALL VA STANDARDS.
11. THE PLUMBING CONTRACTOR SHALL VERIFY ALL PLUMBING EQUIPMENT PART NUMBERS PRIOR TO PURCHASING EQUIPMENT. THE ENGINEER IS NOT RESPONSIBLE FOR INVALID PART NUMBERS.
12. PLUMBING CONTRACTOR AND THE FIRE PROTECTION CONTRACTOR SHALL INCLUDE IN BID ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF NEW WORK.
13. THE BUILDING IS FULLY SPRINKLERED. FIRE PROTECTION CONTRACTOR SHALL REFERENCE THE ARCHITECTURAL REFLECTED CEILING PLANS FOR ALL AREAS OF THE EXISTING SPRINKLER SYSTEM THAT WILL NEED TO BE REWORKED AND OR MODIFIED TO ACCOMMODATE THE BUILDING REMODEL. DESIGN THE COMPLETE SYSTEM ACCORDING TO THE CRITERIA OUTLINED ON THE DRAWINGS, IN THE SPECIFICATIONS, PER THE V.A. STANDARDS AND N.F.P.A. 13.
14. FIRE PROTECTION CONTRACTOR SHALL PREPARE ALL DRAWINGS AND APPLICATIONS REQUIRED TO OBTAIN APPROVAL OF THE SYSTEM BY OWNERS INSURANCE UNDERWRITER, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION. ALL DRAWINGS TO BE SUBMITTED PRIOR TO BEGINNING CONSTRUCTION.
15. FIRE PROTECTION CONTRACTOR SHALL SUBMIT DRAWINGS WITH ALL SPRINKLER HEAD LOCATIONS. ALL SPRINKLER HEADS TO BE LAID OUT NEATLY WITHIN THE CEILING SYSTEMS AND BE COORDINATED WITH ALL BULKHEADS, CEILINGS AND STRUCTURE, LIGHTS, GRILLES AND DIFFUSERS, AND TECHNOLOGY DEVICES. REFERENCE ARCHITECTURAL DRAWINGS FOR REFLECTED CEILING PLANS.
16. DO NOT PLACE SPRINKLER HEADS WITHIN THE SPACE OF THE ELEVATOR EQUIPMENT ROOMS.
17. PLUMBING CONTRACTOR AND FIRE PROTECTION CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BID AND INCLUDE ALL COSTS IN BID.
18. SPRINKLER PIPING SHALL NOT BE ROUTED THRU ANY TECHNOLOGY EQUIPMENT OR ELECTRICAL ROOM. USE SIDEWALL SPRINKLER HEADS WITH GUARDS TO SERVE THE ROOM AS REQUIRED.
19. PLUMBING CONTRACTOR SHALL CLEANOUT ALL EXISTING (TO REMAIN) WASTE AND STORM PIPING TO ENSURE PROPER FLOW.
20. PLUMBING CONTRACTOR SHALL PROTECT ALL EXISTING AREA DRAINS AND FLOOR DRAINS FROM DAMAGE, DIRT AND DEBRIS, DURING CONSTRUCTION.
21. SPRINKLER HEADS INDICATED ON DRAWINGS ARE FOR BIDDING PURPOSES ONLY. FIRE PROTECTION CONTRACTOR RESPONSIBLE FOR DESIGN AND LAYOUT.

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	WASTE PIPE	VENT PIPE	COLD WATER	HOT WATER	WASTE FIXTURE UNITS	WATER FIXTURE UNITS	WRIST BLADE HANDLES	ELECTRIC SENSOR	REMARKS
FD-S	FLOOR DRAIN	3"	---	---	---	6	---	No	No	2
P-401	LAVATORY - WALL MOUNT	1 1/2"	1 1/2"	1/2"	1/2"	1	1.5	No	Yes	1

NOTES:

1. SEE SPECIFICATION SECTION 22 40 00 FOR FULL FIXTURE DESCRIPTION AND REQUIREMENTS.
2. SEE SPECIFICATION SECTION 22 13 00 FOR FULL FIXTURE DESCRIPTION AND REQUIREMENTS.



NOTE:

PROVIDE ADA INSULATION OR COVER AS REQUIRED.

1 P-001 TYPICAL ADA LAVATORY DETAIL
NOT TO SCALE

REVISIONS

REVISION NO.	DATE	REMARKS

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SUSTAINABLE ARCHITECTURE + ENGINEERING

COLORADO LICENSED PROFESSIONAL ENGINEER
DAVID MICHAEL BARRIENTOS
PE0048498
9/26/14

GRAND JUNCTION VAMC
DIETETICS - REPLACEMENT OF REFRIGERATORS AND FREEZERS
Dept. of Veterans Affairs 2121 North Avenue Grand Junction, CO 81501
100% CONSTRUCTION DOCUMENTS

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CLIENT PROJECT NUMBER
575-14-100
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PLUMBING GENERAL NOTES

P-001

GENERAL PLUMBING NOTES

1. THE ENTIRE PLUMBING SYSTEM SHALL CONFORM TO ALL VA STANDARDS AND THE LATEST EDITION OF THE COLORADO PLUMBING CODE..

2. THE ENTIRE PROJECT AREA WILL PROTECTED BY A WET PIPE SPRINKLER SYSTEM. REFERENCE THE FIRE PROTECTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.

3. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND SHALL PROVIDE ANY NECESSARY OFFSETS, REROUTING, ETC. REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.

4. ALL EXISTING PIPING SHOWN ON THE DOCUMENTS ARE FROM FIELD OBSERVATIONS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE EXACT LOCATION, SIZE AND ELEVATION OF ALL EXISTING PIPING PRIOR TO START OF NEW WORK.

5. SEE SHEET P-001 FOR ADDITIONAL INFORMATION.

PLUMBING PLAN NOTES

(1) REWORK EXISTING SPRINKLER SYSTEM AS REQUIRED TO ACCOMODATE REMODELED FLOOR PLAN.

(2) 3/4"CW, 3/4"HW AND 2"VENT DOWN IN WALL.

(3) CONNECT NEW PIPING TO EXISTING. FIELD VERIFY EXACT SIZE AND LOCATION.

(4) PLUMBING CONTRACTOR TO REMOVE, REPLACE AND REPAIR THE CEILING SYSTEM TO INSTALL NEW PIPING.

(5) DOMESTIC HOT WATER BALANCING VALVE.

(6) ROUTE A 2" SANITARY LINE THE BELOW FLOOR IN CEILING SPACE OF SECOND FLOOR APPROXIMATELY 30'-0" TO THE SOUTH TO AN EXISTING 4" SANITARY LINE SERVING THE DISHROOM EQUIPMENT.

GENERAL PLUMBING DEMOLITION NOTES

1. THE ENTIRE PLUMBING SYSTEM SHALL CONFORM TO ALL VA STANDARDS AND THE LATEST EDITION OF THE COLORADO PLUMBING CODE.

2. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CUTTING EXISTING WALLS AND FLOOR SLABS. IF EXISTING TO REMAIN SERVICES ARE CUT / DAMAGED, IT IS THE CONTRACTORS RESPONSIBILITY TO PATCH AND REPAIR THE SERVICE AT NO ADDITIONAL COST TO THE OWNER.

3. CONTRACTOR IS TO REMOVE ALL EXISTING PLUMBING SYSTEMS MADE OBSOLETE BY NEW CONSTRUCTION INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ALL WATER, WASTE AND VENT PIPING, FIXTURES, TRIM, ACCESSORIES, ETC... REFERENCE THE ARCHITECTURAL DEMOLITION DOCUMENTS AND FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID AND INCLUDE ALL COSTS IN BID.

4. ALL EXISTING SANITARY PIPING TO REMAIN IS TO BE CLEANED AND RODDED AS REQUIRED TO ENSURE PROPER FLOW. PIPING SHOWN AS DASHED IS TO BE REMOVED COMPLETE INCLUDING ALL HANGERS AND SUPPORTS.

5. CAP ALL OBSOLETE WASTE PIPING BELOW THE SLAB, WATER PIPING BACK AT MAINS, VENT PIPING ABOVE FINISHED CEILINGS. PATCH ALL FLOORS, WALLS AND CEILINGS AS REQUIRED TO MEET FIRE RATING AND TO RECEIVE NEW FINISHES.

6. REFERENCE THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS FOR THE WALL CONSTRUCTION TYPES, FIRE RATING INFORMATION, ASBESTOS ABATEMENT AND ICRA REQUIREMENTS.

PLUMBING DEMOLITION PLAN NOTES

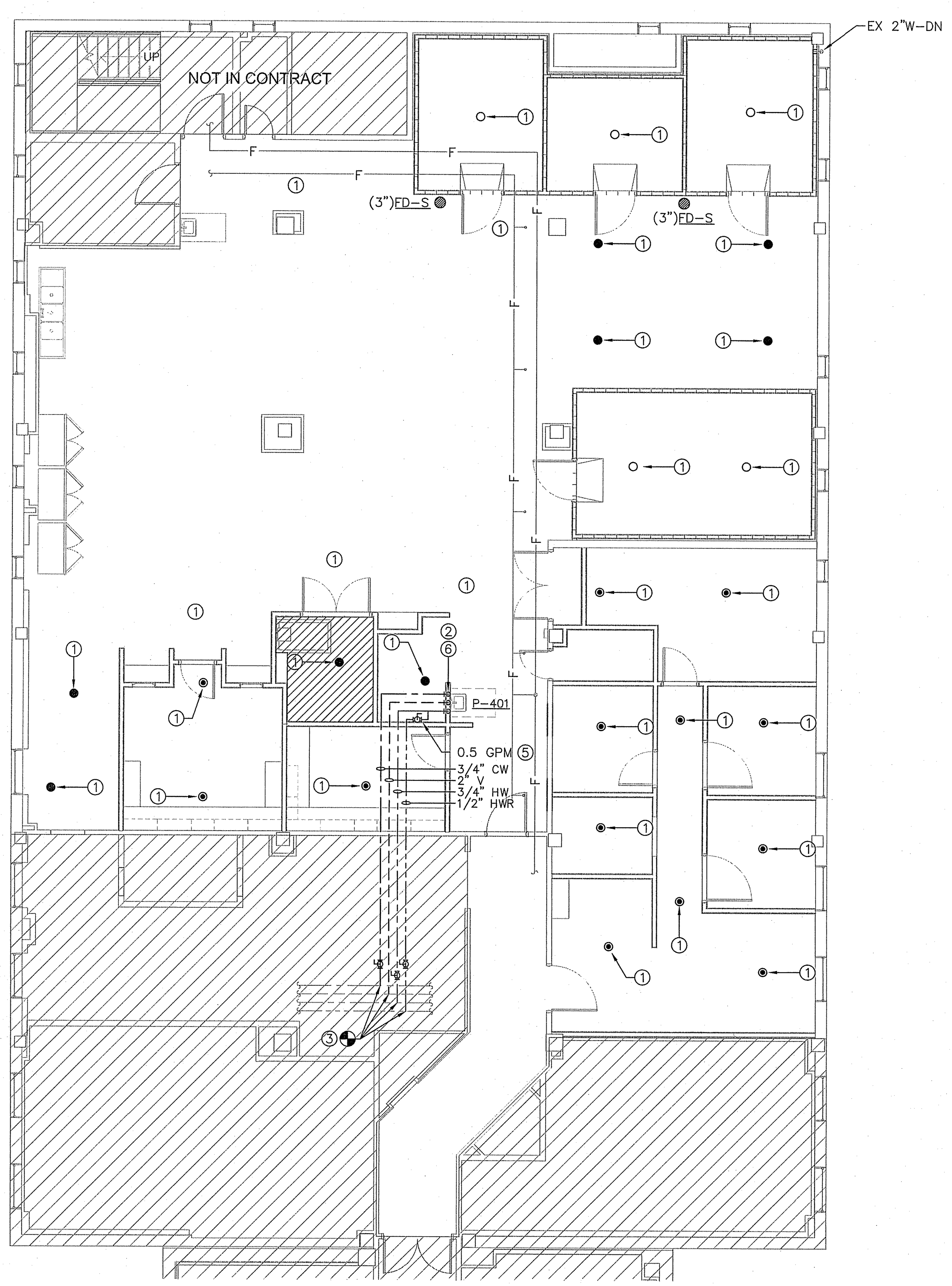
⟨1⟩ REMOVE EXISTING PLUMBING FIXTURE, WATER, WASTE, VENT PIPING AND ASSOCIATED TRIM COMPLETE. REFERENCE ARCHITECTURAL DETAIL SHEETS FOR WALL DEMOLITION AND PATCHING DETAILS. HOLES IN FLOOR SLABS MUST BE TEMPORARILY FIRE STOPPED UNTIL A PERMANENT FIRE STOP HAS BEEN INSTALLED. REFERENCE ARCHITECTURAL DETAIL SHEETS FOR PROPER PATCHING AND SEALING METHOD.

⟨2⟩ REMOVE EXISTING PIPING TO POINT INDICATED. FIELD VERIFY EXACT SIZE OF PIPE PRIOR TO START OF WORK.

⟨3⟩ REWORK EXISTING SPRINKLER PIPING AS REQUIRED TO ACCOMODATE BUILDING REMODEL.

⟨4⟩ REMOVE EXISTING SPRINKLER PIPING, HEADS, HANGERS AND SUPPORTS COMPLETE.

⟨5⟩ REMOVE EXISTING OPEN SITE DRAIN TO POINT SHOWN AND CAP.

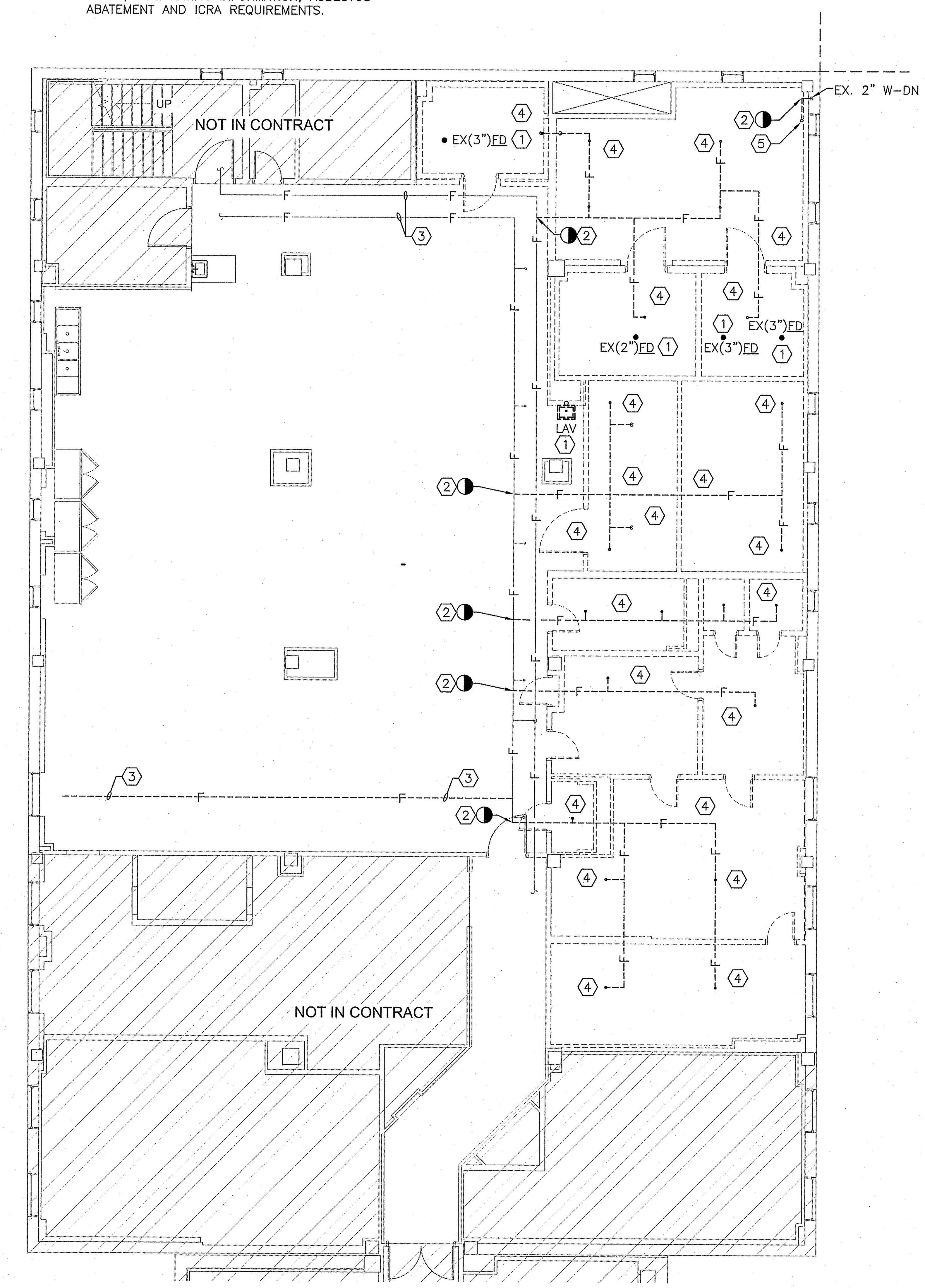


(1) THIRD FLOOR PLUMBING PLAN

SCALE: 1/8" = 1'-0"

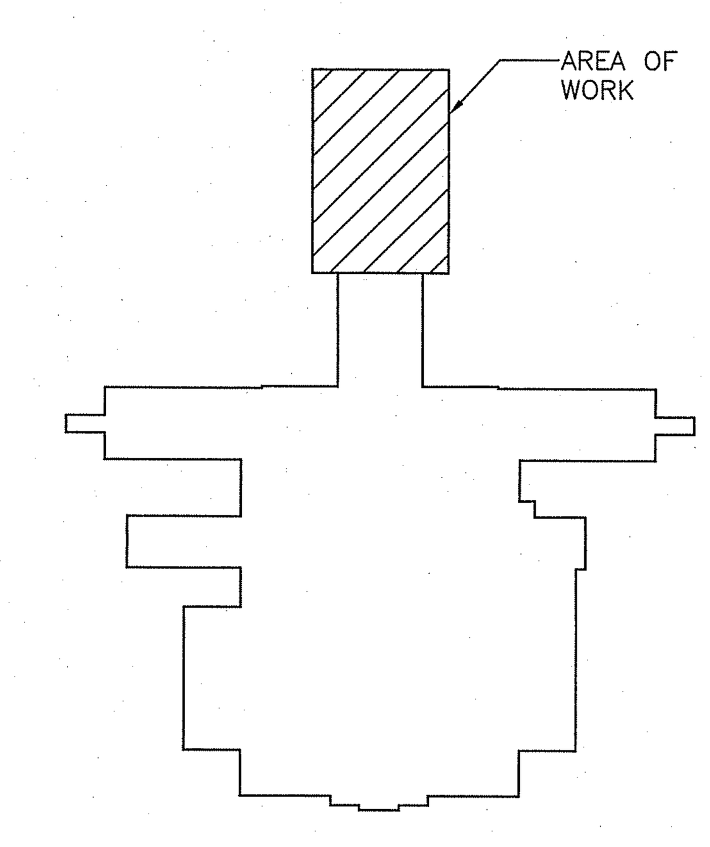
SPRINKLER LEGEND

- ◉ SEMI-RECESSED
- ● EXPOSED PENDANT HEAD
- ○ DRY FREEZE PROOF HEAD



(2) THIRD FLOOR PLUMBING DEMOLITION PLAN

SCALE: 1/8" = 1'-0"



BUILDING KEY PLAN

SCALE: N.T.S.

REVISIONS		
REVISION NO.	DATE	REMARKS

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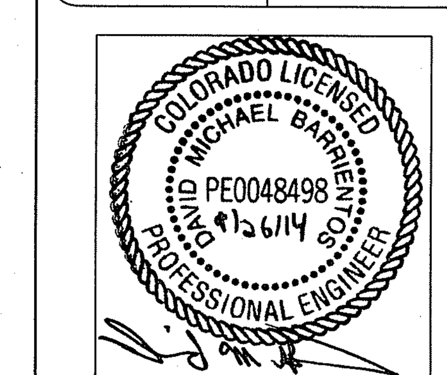

GRAND JUNCTION VAMC

DIETETICS - REPLACEMENT OF REFRIGERATORS AND FREEZERS

Dept. of Veterans Affairs 2121 North Avenue Grand Junction, CO 81501

100% CONSTRUCTION DOCUMENTS

DESIGNED: ACK	DRAWN: ACK
APPROVED: DMB	CHECKED: DMB
CLIENT PROJECT NUMBER	
575-14-100	
PROJECT NUMBER	
13.1069	
DATE	
09/26/2014	

THIRD FLOOR PLUMBING PLAN

PP102

MECHANICAL LEGEND

- CARBON DIOXIDE
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- ROUND FLEX DUCT
- FIRE DAMPER
- DUCT SMOKE DETECTOR
- DIFFUSER TAG (C)
- DIFFUSER CFM (275)
- CONDENSATE PIPING
- BALL VALVE
- DRAIN
- PRESSURE RELIEF VALVE
- FLOW CHECK VALVE
- PRESSURE REDUCING VALVE
- BACK FLOW PREVENTER
- WYE STRAINER
- UNION
- TEMPERATURE/PRESSURE GAUGE
- BALANCING VALVE
- TWO POSITION CONTROL VALVE
- ISOLATION VALVE
- HORN STROBE ALARM
- ROUND AND SQUARE 4-WAY CEILING DIFFUSERS
- SQUARE 3-WAY CEILING DIFFUSERS
- SQUARE 2-WAY CEILING DIFFUSERS
- SQUARE 1-WAY CEILING DIFFUSERS
- LINEAR SLOT DIFFUSER
- SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)
- EXHAUST OR RETURN CEILING REGISTER OR GRILLE
- EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE (WALL TYPE)
- EXHAUST OR RETURN REGISTER OR TOP GRILLE (WALL TYPE)
- VANED ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF
- CONNECT NEW DUCT TO EXISTING DUCT
- INCLINED RISE, IN DIRECTION OF AIR FLOW (R)
- INCLINED DROP, IN DIRECTION OF AIR FLOW (D)
- LIMIT OF DEMOLITION
- FLEXIBLE CONNECTION, EQUIPMENT, VIBRATION, OR SEISMIC (FC)
- VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
- VANED ELBOW (SHORT RADIUS)
- STANDARD RADIUS ELBOW (LONG RADIUS)
- NEW DUCT (INSIDE DIMENSIONS: WIDTH x DEPTH) (10x8)
- EXISTING DUCT TO REMAIN
- EXISTING DUCT TO BE REMOVED
- LOUVER (LOUVER SPECIFIED IN ARCHITECTURAL SECTION.)
- FLEXIBLE DUCTWORK (INSULATED)
- DUCT WITH SOUND LINING
- MANUAL VOLUME DAMPER (VD)
- FIRE DAMPER (FD)
- BACK DRAFT DAMPER (BDD)
- COMBINATION FIRE/SMOKE DAMPER (F/S DPR, N)
- POINT OF CHANGE IN DUCT CONSTRUCTION BY STATIC PRESSURE CLASS. THE NUMBER ASSIGNS PRESSURE CLASS (IN. OF WATER) WHICH WILL ACCOMMODATE MAXIMUM OPERATING PRESSURE IN THE DUCT SUBSECTION. THE SYMBOL CONTINUES THE ASSIGNMENT UNTIL THE DUCT TERMINATES OR ANOTHER SYMBOL APPEARS. A "N" SUPERSCRIPT INDICATES NEGATIVE PRESSURE. (2 | 1, 4, 1/2)
- AUTOMATIC CONTROL DAMPER MODULATING
- AUTOMATIC CONTROL DAMPER TWO POSITION
- MANUAL SPLITTER DAMPER
- STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP) (45° SUPPLY; 45° RETURN)
- SUPPLY DUCT (UP & DOWN) (UP, DN)
- EXHAUST DUCT (UP & DOWN) (UP, DN)
- RETURN DUCT (UP & DOWN) (UP, DN)

ABBREVIATIONS:

A/E	ARCHITECT / ENGINEER
AAV	AUTOMATIC AIR VENT
AD	ACCESS DOOR
AF	AFTER FILTER
AFF	ABOVE FINISHED FLOOR
AHU	AIR-HANDLING UNIT
AMP	AMPERGE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
AS	AIR SEPARATOR
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
BD	BUTTERFLY DAMPER
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CENTIGRADE (CELCIUS)
CC	COOLING COIL
CCD	COOLING COIL CONDENSATE DRAIN
CD	CEILING DIFFUSER
CENT	CENTRIFICAL
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFT	CUBIC FEET
CG	CEILING GRILLE
CI	CAST IRON
CM	CUBIC METER
CM/S	CUBIC METER PER SECOND
CO	CLEAN OUT
CO2	CARBON DIOXODE
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CR	CEILING REGISTER
CSG	CLEAN STEAM GENERATOR
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CV	CONSTANT VOLUME
CW	COLD WATER (POTABLE)
CWCC	CHILLED WATER COOLING COIL
CWR	CHILLED WATER RETURN (TO COOLING TOWER)
CWS	CHILLED WATER SUPPLY (FROM COOLING TOWER)
DB	DECIBELS
Db	DRY-BULB TEMPERATURE
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE
DIA	DIAMETER
DP	DEW POINT TEMPERATURE
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EJ	EXPANSION JOINT
EMD	END OF MAIN DRIP (STEAM)
ENT	ENTERING
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER
EWT	ENTERING WATER TEMPERATURE
EX.	EXISTING
F	FAHRENHEIT
F&T	FLOAT AND THERMOSTATIC
FA	FREE AREA
FC	FLEXIBLE CONNECTION
FD	FLOOR DRAIN
FD	FIRE DAMPER
FF	FINAL FILTER
FM	FLOW METER
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FR	FLOOR REGISTER
FS	FLOW SWITCH
FSTAT	FREEZESTAT
FT	FEET
FT-LB	FOOT-POUND
FTR	FIN TUBE RADIATION
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLONS
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GS	GALVANIZED STEEL
H	HUMIDIFER
H&CW	HOT & COLD WATER
HAC	HOUSEKEEPING AID CLOSET
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD
HOA	HAND/OFF/AUTOMATIC
HP	HORSEPOWER
HPR	HIGH PRESSURE RETURN (STEAM CONDENSATE)
HPS	HIGH PRESSURE SUPPLY (STEAM)
HSTAT	HUMIDISTAT
HTM	HUMIDIFIER TERMINAL
HUM	HUMIDIFIER UNIT MOUNTED
HW	HOT WATER
HWC	HOT WATER COIL
HWHC	HOT WATER HEATING COIL
HWP	HEATING HOT WATER PUMP
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ
I/O	INPUT/OUTPUT
IAQ	INDOOR AIR QUALITY
IBT	INVERTED BUCKET TRAP
ICF	IN-LINE CENTRIFUGAL FAN
ICU	INTENSIVE CARE UNIT
ID	INSIDE DIAMETER
IFB	INTEGRAL FACE AND BYPASS
IN	INCHES
IN HG	INCHES OF MERCURY
IN WC	INCH WATER COLUMN
IN WG	INCH WATER GAUGE
IN-LB	INCH-POUND
IPLV	INTERGRATED PART LOAD VALUE
IS	INSECT SCREEN
IV	INLET VANES
kg	KILOGRAM
kg/HR	KILOGRAM PER HOUR
kPa	KILOPASCAL
kW	KILOWATT
kWh	KILOWATT HOUR
L	LITER
L/h	LITERS PER HOUR
L/m	LITERS PER MINUTE
L/s	LITERS PER SECOND
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
LF	LINEAR FOOT (FEET)
LH	LATENT HEAT
LPR	LOW PRESSURE RETURN (STEAM CONDENSATE)
LPRC	LOW PRESSURE STEAM RETURN (CLEAN)
LPS	LOW PRESSURE STEAM
LPSC	LOW PRESSURE STEAM (CLEAN)
LSD	LINEAR SLOT DIFFUSER
LVG	LEAVING
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
M	METER, SI UNIT
M/s	METERS PER SECOND (OR METERS/SECOND)
MA	MIXED AIR
MAT	MIXED AIR TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MB	MIXING BOX
MBH	1000 BTUH
MCA	MINIMUM BRANCH CIRCUIT AMPACITY
MER	MECHANICAL EQUIPMENT ROOM
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MH	MANHOLE
MHP	MOTOR HORSEPOWER
MIN	MINIMUM
MM	MILLIMETER
MPR	MEDIUM PRESSURE RETURN (STEAM CONDENSATE)
MPS	MEDIUM PRESSURE STEAM
MRI	MAGNETIC RESONANCE IMAGING
MTD	MEAN TEMPERATURE DIFFERENCE
MVD	MANUAL VOLUME DAMPER
MZ	MULTI-ZONE
NA	NOT APPLICABLE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NG	NATURAL GAS
NGFM	NATURAL GAS FLOWMETER
NO	NORMALLY OPEN
NOAA	NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
NOM	NOMINAL
NPLV	NON-STANDARD PART LOAD VALUE
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAG	OUTSIDE AIR GRILLE
OAI	OUTSIDE AIR INTAKE
OD	OUTSIDE DIAMETER
OR	OPERATING ROOM
P	PUMP
PA	PASCAL
PC	PUMPED CONDENSATE
PCF	POUNDS PER CUBIC FOOT (FEET)
PD	PRESSURE DROP
PEF	PROPELLER (TYPE) EXHAUST FAN
PF	PRE-FILTER
PG	PRESSURE GAGE
PHC	PREHEAT COIL
PPM	PARTS PER MILLION
PRS	PRESSURE REGULATING (VALVE) STATION
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH - ABSOLUTE
PSIG	POUNDS PER SQUARE INCH - GAGE
PSV	PRESSURE SAFETY VALVE
PTAC	PACKAGED TERMINAL AIR CONDITIONER
R/E	RETURN OR EXHAUST
RA	RETURN AIR
RAD	REFRIGERANT AIR DRYER
RAT	RETURN AIR TEMPERATURE
RDS	ROOM DATA SHEETS
REA	RELIEF AIR
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID LINE
RLA	RUN LOAD AMPERE
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
RV	RELIEF VALVE
SA	SUPPLY AIR
SAD	SOUND ATTENUATING DEVICE
SAT	SUPPLY AIR TEMPERATURE
SC	SHADING COEFFICIENT
SCFM	STANDARD CUBIC FEET PER MINUTE
SCI	SPINAL CODE INJURY
SCR	SILICON CONTROLLED RECTIFIER
SD	SMOKE DETECTOR
SD	SUPPLY AIR DIFFUSER
SEN	SENSIBLE HEAT
SF	SUPPLY FAN
SG	SUPPLY AIR GRILLE
SH	STEAM HUMIDIFIER
SHC	STEAM HEATING COIL
SI	SQUARE INCHES
SP	STATIC PRESSURE
SP GR	SPECIFIC GRAVITY
SPD	SUPPLY PROCESS AND DISTRIBUTION
SPRV	STEAM PRESSURE REDUCING VALVE
SPS	STATIC PRESSURE SENSOR
SQ FT	SQUARE FOOT (FEET)
SR	SUPPLY AIR REGISTER
SS	STAINLESS STEEL
ST	STEAM TRAP
SUH	STEAM UNIT HEATER
SV	STEAM PRESSURE REDUCING VALVE
T & PCV	TEMPERATURE AND PRESSURE CONTROL VALVE
TAB	TESTING, ADJUSTING, BALANCE
TD	TEMPERATURE DIFFERENCE
TDH	TOTAL DYNAMIC HEAD
TG	TRANSFER GRILLE
TP	TRAP
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TU	TERMINAL UNIT
UC	UNDER CUT
UC	UNIT COOLER
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
URV	UPBLAST UNIT VENTILATOR
V	VALVE
VAF	VANE-AXIAL FAN
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VFD	VARIABLE FREQUENCY DRIVE
VHA	VETERANS HEALTH ADMINISTRATION
VI	VIBRATION ISOLATOR
VIV	VARIABLE INLET VANES
VR	VACUUM (STEAM CONDENSATE) RETURN
VSD	VARIABLE SPEED DRIVE
W	WATTS
Wb	WET-BULB (TEMPERATURE)
WC	WATER COLUMN
WG	WATER GAGE
YR	YEAR

GENERAL NOTES AND SPECIFICATIONS

1. ALL WORK SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES ALONG WITH ALL VA STANDARDS. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.
2. THE MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED FOR HIS WORK.
3. ALL MATERIALS, EQUIPMENT AND PRODUCTS INCORPORATED IN THE WORK UNDER THE CONTRACT SHALL BE NEW, OF A SUITABLE GRADE FOR THE PURPOSES INTENDED, AND TO THE EXTENT POSSIBLE, STANDARD PRODUCTS OF THE VARIOUS MANUFACTURERS EXCEPT WHERE SPECIAL CONSTRUCTION OR PERFORMANCE FEATURES ARE CALLED FOR.
4. ANY EQUIPMENT OR MATERIAL DEVIATIONS FROM THAT SPECIFIED OR DETAILED ON THIS DRAWING SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER. ALL PROPOSED EQUIPMENT DEVIATIONS SUBMITTED SHALL BE SIMILAR BOTH IN QUALITY AND CAPACITY TO THAT EQUIPMENT SPECIFIED.
5. ALL MECHANICAL EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITERS LABORATORIES (U.L.).
6. THE MECHANICAL CONTRACTOR SHALL INSTALL EQUIPMENT AS SHOWN ON THE DRAWINGS ALLOWING FOR SUFFICIENT ACCESS AND CLEARANCE SPACE FOR EQUIPMENT MAINTENANCE, REPAIRS AND REPLACEMENT. PROVIDE PROPER CLEARANCES FOR REQUIRED PIPING AND ELECTRICAL SERVICES AND CONNECTIONS. INSTALL ALL EQUIPMENT WITH REQUIRED ACCESS AND CLEARANCES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS AND/OR WITH ALL APPLICABLE CODES AND STANDARDS.
7. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION AND ROUTING OF ALL PROPOSED DUCTWORK, PIPING AND EQUIPMENT WITHIN THE BUILDING STRUCTURE.
8. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL HIS OWN SUPPORT EQUIPMENT. LOCATIONS SHALL BE COORDINATED WITH ALL CONTRACTORS PRIOR TO INSTALLATION.
9. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE EQUIPMENT PROVIDED UNDER THIS CONTRACT.
10. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING FOR HIS EQUIPMENT.
11. DUCTWORK AND PIPING LAYOUTS AND LOCATIONS ARE SCHEMATIC. DO NOT SCALE THESE DRAWINGS. EXACT ROUTING OF DUCTWORK AND PIPING MUST BE DETERMINED IN THE FIELD. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR BY ACTUAL MEASUREMENT AND OBSERVATION BEFORE ORDERING OR FABRICATING ANY DUCTWORK, PIPING OR EQUIPMENT. ANY DISCREPANCIES BETWEEN THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE EXISTING CONDITIONS OR DIMENSIONS SHALL BE REPORTED TO THE A/E AND VMAC COR BEFORE THE PERFORMANCE OF ANY WORK. FAILURE TO VERIFY AND REPORT SHALL CONSTITUTE THE CONTRACTOR'S ACCEPTANCE OF THE EXISTING CONDITIONS AS FIT FOR THE PROPER EXECUTION OF HIS WORK. SEE ARCHITECTURAL DRAWINGS FOR FINAL LOCATION OF CEILING INSTALLED.
12. DUCTWORK AND PIPING SHALL BE KEPT AS CLOSE AND HIGH AS POSSIBLE TO THE BUILDING WALLS, CEILING, FLOOR AND ROOF STRUCTURE IN ORDER THAT THE MAXIMUM AMOUNT OF SPACE IS AVAILABLE. ADDITIONAL OFFSETS, FITTINGS, ETC. NOT SHOWN BUT REQUIRED TO MAINTAIN MAXIMUM CLEARANCE SHALL BE PROVIDED AT NO ADDITIONAL COST.
13. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PATCHING, PAINTING AND CLEANING ASSOCIATED WITH THIS PROJECT UNLESS NOTED OTHERWISE.
14. PROVIDE A COMPLETE 1-YEAR WARRANTY ON ALL LABOR AND MATERIALS.
15. CONTRACTOR SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF PROJECT.
16. INSTALL ESCUTCHEONS IN ALL PLACES WHERE PIPING PENETRATES A WALL IN AN EXPOSED LOCATION.
17. THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, INCLUDING THE SCHEDULES AND DETAILS PRIOR TO INSTALLATION OF ANY MECHANICAL SYSTEMS AND SHALL RESOLVE ANY CONFLICTS WITH THE ENGINEER.
18. CONTRACTOR SHALL TAKE POSSESSION OF AND DISPOSE OF ALL EXISTING MATERIALS AND EQUIPMENT BEING DEMOLISHED AND/OR REMOVED. ALL ITEMS SHALL BE DISPOSED OF IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS THAT APPLY. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE DISPOSAL.
19. INSTALL SHUTOFF-DUTY VALVES AT EACH BRANCH CONNECTION TO SUPPLY MAINS, AND AT SUPPLY CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL CHECK VALVES AT EACH PUMP DISCHARGE AND ELSEWHERE AS REQUIRED TO CONTROL FLOW DIRECTION.
20. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION
21. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY.
22. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS: APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS.
23. INSTALL MANUAL AIR VENTS AT HIGH POINTS IN PIPING, AT HEAT-TRANSFER COILS, AND ELSEWHERE AS REQUIRED FOR SYSTEM AIR VENTING.
24. CUT INSULATION IN A MANNER TO AVOID COMPRESSING INSULATION MORE THAN 75 PERCENT OF ITS NOMINAL THICKNESS. FINISH INSTALLATION WITH SYSTEMS AT OPERATING CONDITIONS. REPAIR JOINT SEPARATIONS AND CRACKING DUE TO THERMAL MOVEMENT. REPAIR DAMAGED INSULATION FACINGS BY APPLYING SAME FACING MATERIAL OVER DAMAGED AREAS. EXTEND PATCHES AT LEAST 4 INCHES BEYOND DAMAGED AREAS. ADHERE, STAPLE, AND SEAL PATCHES SIMILAR TO BUTT JOINTS.
25. INSULATE INSTRUMENT CONNECTIONS FOR THERMOMETERS, PRESSURE GAGES, PRESSURE TEMPERATURE TAPS, TEST CONNECTIONS, FLOW METERS, SENSORS, SWITCHES, AND TRANSMITTERS ON INSULATED PIPES, VESSELS, AND EQUIPMENT. SHAPE INSULATION AT THESE CONNECTIONS BY TAPERING IT TO AND AROUND THE CONNECTION WITH INSULATING CEMENT AND FINISH WITH FINISHING CEMENT, MASTIC, AND FLASHING SEALANT.
26. THE MECHANICAL CONTRACTOR SHALL TAKE THE LEAD IN PREPARATION OF COORDINATION DRAWINGS. SUCH DRAWINGS SHALL BE COMPLETED WITH COORDINATION FROM THE GENERAL CONTRACTOR AND ALL OTHER MAJOR AND MINOR SUBCONTRACTORS. PROVIDE PLAN VIEWS, SECTIONS AND ELEVATIONS, AS REQUIRED, TO FULLY COORDINATE ALL NEW WORK WITH ITSELF AND EXISTING CONDITIONS. DRAWINGS SHALL SHOW, BUT NOT BE LIMITED TO, ALL DUCTWORK, AIR DISTRIBUTION, MECHANICAL EQUIPMENT, MECHANICAL PIPING, FIRE PROTECTION PIPING, PLUMBING PIPING, CABLE TRAYS, LIGHTING FIXTURES, CEILING GRID AND HEIGHT, BEAMS AND JOISTS (WITH ELEVATIONS MARKED), ELECTRICAL CONDUIT LARGER THAN 2 INCHES IN DIAMETER AND ANY OTHER CEILING MOUNTED DEVICES OR EQUIPMENT THAT PROTRUDE INTO THE CEILING CAVITY. IF THERE ARE ANY OUTSTANDING ISSUES THAT CANNOT BE RESOLVED, CONSULT WITH ARCHITECT AND/OR ENGINEER (THROUGH THE VA COR) FOR GUIDANCE AND MAKE CORRECTIONS IN ACCORDANCE WITH DIRECTIONS GIVEN. IT IS IMPORTANT TO NOTE THAT FABRICATION CANNOT BEGIN UNTIL COORDINATION DRAWINGS HAVE BEEN APPROVED. ANY INSTALLATION COMMENCED PRIOR TO APPROVAL IS TAKEN AT THE CONTRACTORS OWN RISK AND MAY HAVE TO BE MODIFIED, MOVED AND/OR RECONFIGURED AT CONTRACTORS COST.

REVISIONS

REVISION NO.	DATE	REMARKS

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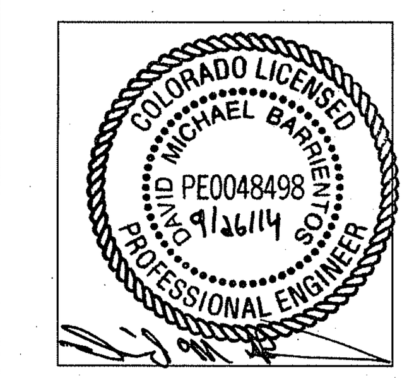


GRAND JUNCTION VAMC
DIETETICS - REPLACEMENT OF REFRIGERATORS AND FREEZERS
Dept. of Veterans Affairs 2121 North Avenue Grand Junction, CO 81501
100% CONSTRUCTION DOCUMENTS

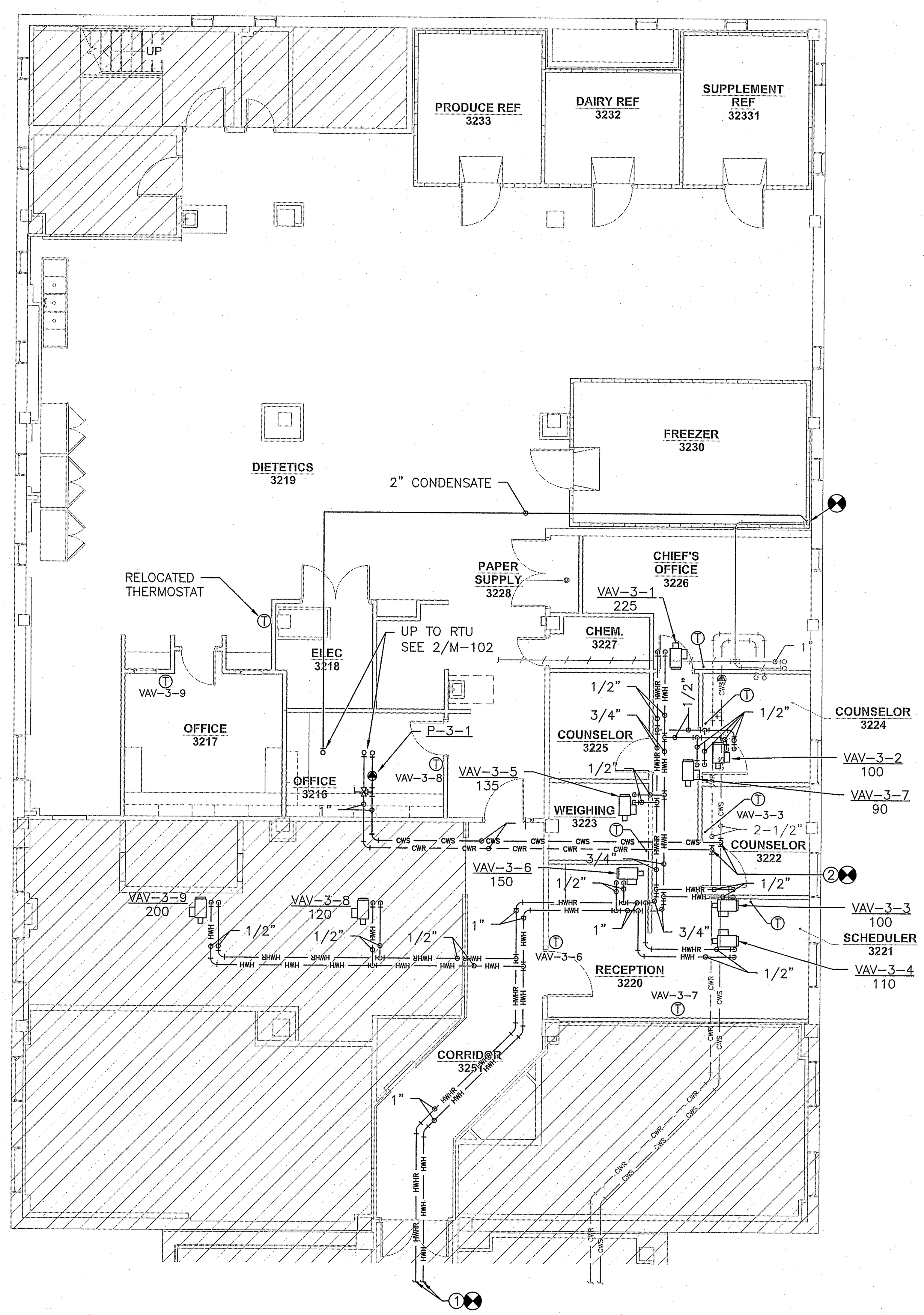
DESIGNED: ACK	DRAWN: ACK
APPROVED: DMB	CHECKED: DMB
CLIENT PROJECT NUMBER	575-14-100
PROJECT NUMBER	13.1069
DATE	09/26/2014

MECHANICAL GENERAL NOTES

M-001

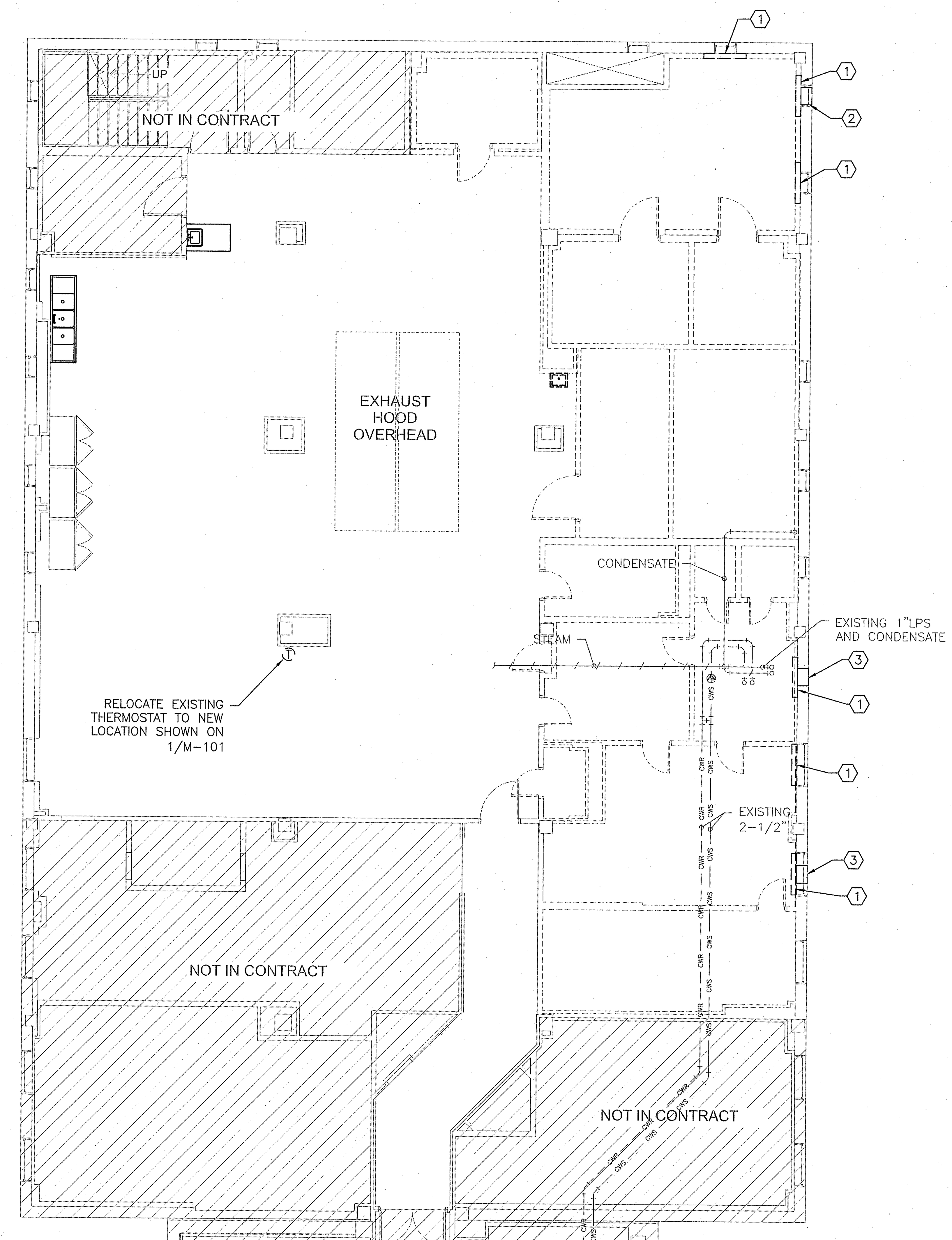
MECHANICAL DEMOLITION PLAN NOTES:

1. REMOVE STEAM RADIATION COMPLETE. VALVE AND CAP STEAM PIPING IN 2ND FLOOR CEILING.
2. REMOVE EXHAUST FAN COMPLETE. INSTALL 2" INSULATED SHEET METAL PANEL. COORDINATE WALL FINISH WITH ARCHITECTURAL.
3. REMOVE WINDOW AIR CONDITIONING COMPLETE. INSTALL INSULATED SHEET METAL PANEL. COORDINATE WALL FINISH WITH ARCHITECTURAL.



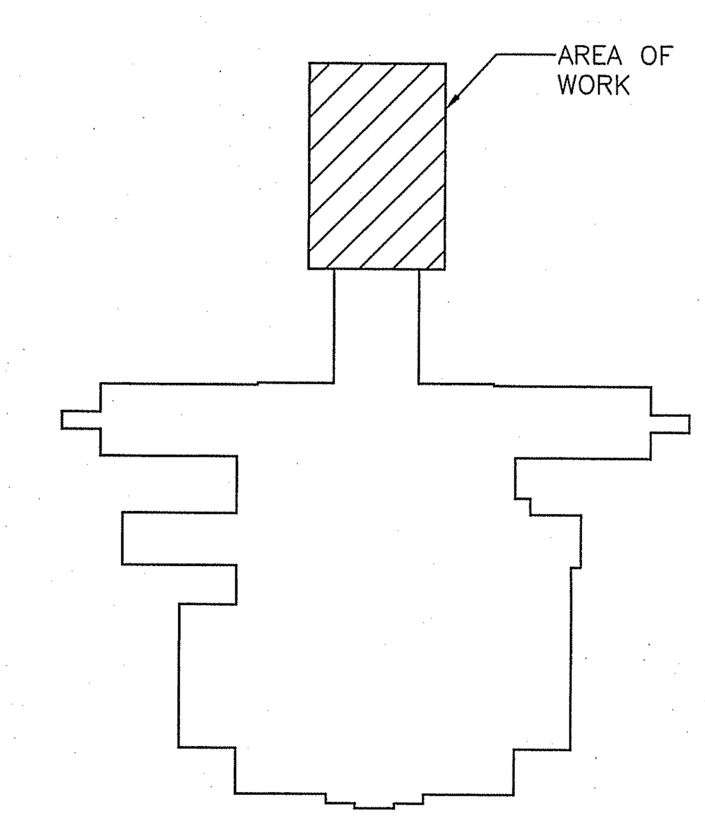
1 THIRD FLOOR MECHANICAL PIPING PLAN

SCALE: 1/8"=1'-0"



2 THIRD FLOOR MECHANICAL DEMOLITION PLAN

SCALE: 1/8"=1'-0"



BUILDING KEY PLAN

SCALE: N.T.S.

REVISIONS		
REVISION NO.	DATE	REMARKS

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COLORADO LICENSED PROFESSIONAL ENGINEER
DAVID MICHAEL BARRIENTOS
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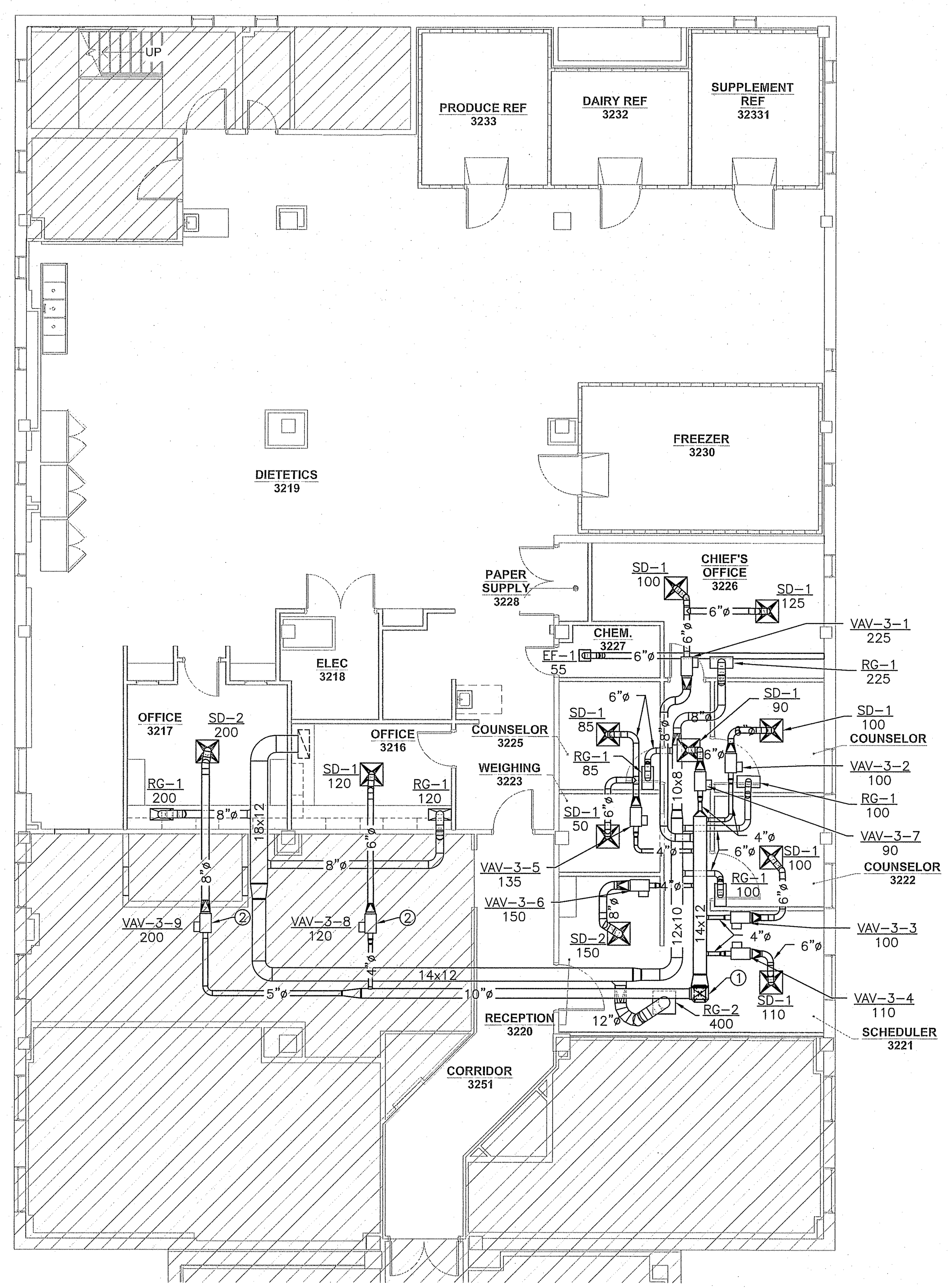
THIRD FLOOR MECHANICAL PLAN

M-101

MECHANICAL PLAN NOTES:

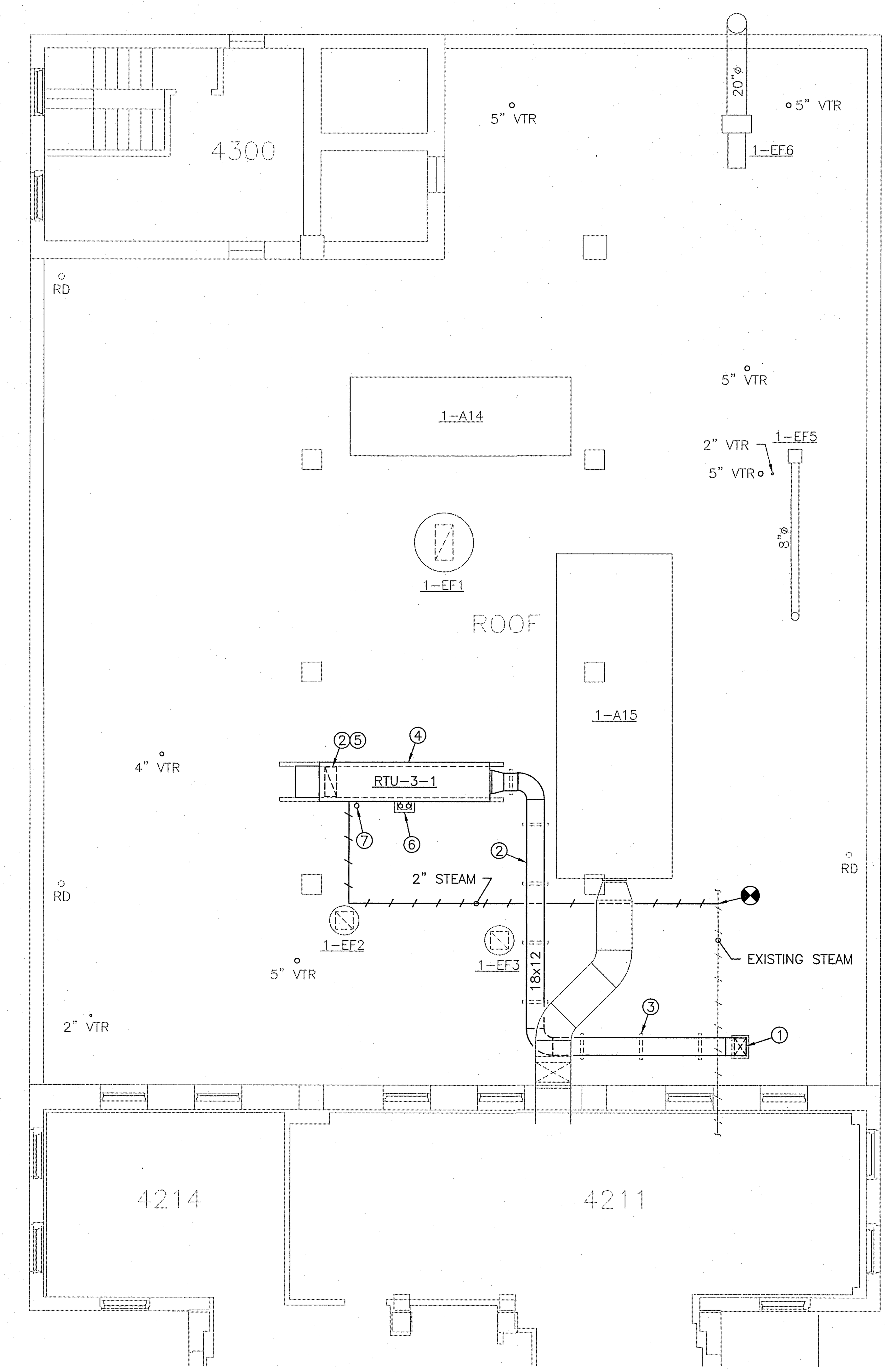
1. 18" X 12" SUPPLY DUCT DOWN THROUGH ROOF.
2. COORDINATE LOCATION OF DUCTWORK AND VAV BOX WITH EXISTING CONDITIONS ABOVE WAREWASH ROOM.



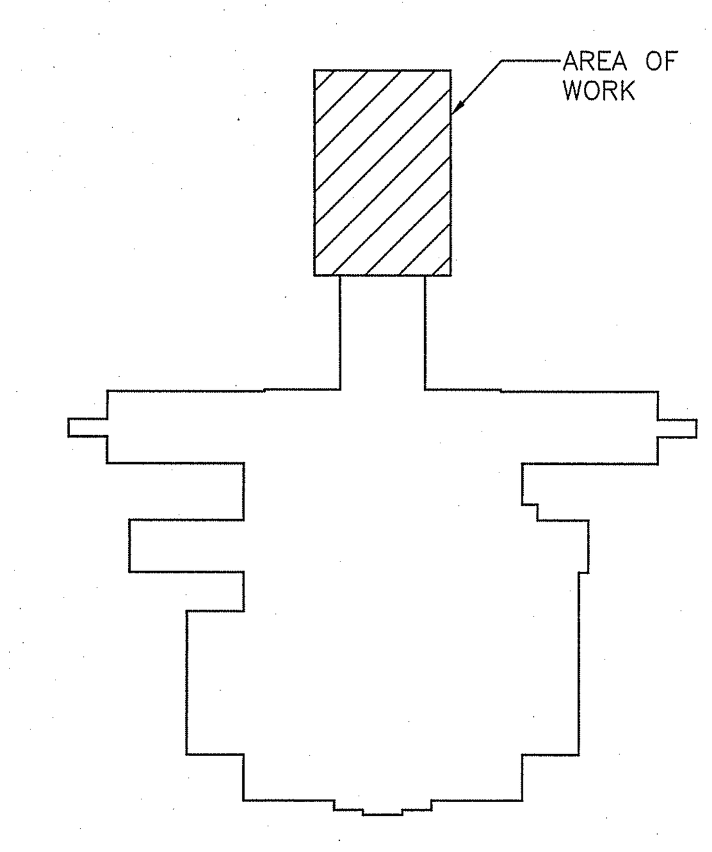
1 THIRD FLOOR MECHANICAL PLAN
SCALE: 1/8"=1'-0"

MECHANICAL ROOF PLAN NOTES:

1. 18x12 S.A. DOWN. SEE 1/M-102 FOR CONTINUATION. PROVIDE ROOF CURB.
2. DUCT TO BE EXTERNALLY INSULATED WITH 3" RIGID FIBERGLASS INSULATION WITH ALUMINUM JACKET.
3. PROVIDE DUCTWORK SUPPORT ON ROOF 5'-0" O.C.
4. MOUNT RTU ON EXISTING EQUIPMENT RAILS. MODIFY AS NECESSARY.
5. R.A. DOWN. SEE 1/M-102 FOR CONTINUATION. PROVIDE ROOF CURB.
6. 1" CWS & CWR DOWN THRU ROOF. SEE 1/M-101 FOR CONTINUATION. PROVIDE METAL INSULATED PIPE ENCLOSURE.
7. 2" CONDENSATE LINE DOWN THRU ROOF. SEE 1/M-101 FOR CONTINUATION.



2 ROOF PLAN
SCALE: 1/8"=1'-0"



BUILDING KEY PLAN
SCALE: N.T.S.

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THIRD FLOOR MECHANICAL PLAN

M-102

1. EF-1 (TYPICAL OF 1)

RUN CONDITIONS – CONTINUOUS:
THE FAN SHALL RUN CONTINUOUSLY.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.

	Hardware Points				Software Points						
Point Name	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Fan Status			x						x		x
Fan Start/Stop				x					x		x
Fan Failure										x	
Totals	0	0	1	1	0	0	0	0	2	1	2

Total Hardware (2) Total Software (3)

2. VAV-3-# (TYPICAL OF 9)

RUN CONDITIONS – CONTINUOUS:
THE UNIT SHALL RUN CONTINUOUSLY AND SHALL MAINTAIN:

- A 74°F (ADJ.) COOLING SETPOINT
- A 70°F (ADJ.) HEATING SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).
- LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

REVERSING VARIABLE VOLUME TERMINAL UNIT – FLOW CONTROL:
THE UNIT SHALL MAINTAIN ZONE SETPOINTS BY CONTROLLING THE AIRFLOW THROUGH ONE OF THE FOLLOWING:

OCCUPIED:

- WHEN ZONE TEMPERATURE IS GREATER THAN ITS COOLING SETPOINT, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM OCCUPIED AIRFLOW (ADJ.) AND THE MAXIMUM COOLING AIRFLOW (ADJ.) UNTIL THE ZONE IS SATISFIED.
- WHEN THE ZONE TEMPERATURE IS BETWEEN THE COOLING SETPOINT AND THE HEATING SETPOINT, THE ZONE DAMPER SHALL MAINTAIN THE MINIMUM REQUIRED ZONE VENTILATION (ADJ.).
- WHEN ZONE TEMPERATURE IS LESS THAN ITS HEATING SETPOINT, THE CONTROLLER SHALL ENABLE HEATING TO MAINTAIN THE ZONE TEMPERATURE AT ITS HEATING SETPOINT. ADDITIONALLY, IF WARM AIR IS AVAILABLE FROM THE AHU, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM OCCUPIED AIRFLOW (ADJ.) AND THE MAXIMUM HEATING AIRFLOW (ADJ.) UNTIL THE ZONE IS SATISFIED.

UNOCCUPIED:

- WHEN THE ZONE IS UNOCCUPIED THE ZONE DAMPER SHALL CONTROL TO ITS MINIMUM UNOCCUPIED AIRFLOW (ADJ.).
- WHEN THE ZONE TEMPERATURE IS GREATER THAN ITS COOLING SETPOINT, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM UNOCCUPIED AIRFLOW (ADJ.) AND THE MAXIMUM COOLING AIRFLOW (ADJ.) UNTIL THE ZONE IS SATISFIED.
- WHEN ZONE TEMPERATURE IS LESS THAN ITS UNOCCUPIED HEATING SETPOINT, THE CONTROLLER SHALL ENABLE HEATING TO MAINTAIN THE ZONE TEMPERATURE AT THE SETPOINT. ADDITIONALLY, IF WARM AIR IS AVAILABLE FROM THE AHU, THE ZONE DAMPER SHALL MODULATE BETWEEN THE MINIMUM UNOCCUPIED AIRFLOW (ADJ.) AND THE AUXILIARY HEATING AIRFLOW (ADJ.) UNTIL THE ZONE IS SATISFIED.

REHEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND MODULATE THE REHEATING COIL VALVE OPEN ON DROPPING TEMPERATURE TO MAINTAIN ITS HEATING SETPOINT.

DISCHARGE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE DISCHARGE AIR TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
- LOW DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS LESS THAN 40°F (ADJ.).

	HARDWARE POINTS				SOFTWARE POINTS						
POINT NAME	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	SHOW ON GRAPHIC
ZONE TEMP	X								X		X
AIRFLOW	X								X		X
DISCHARGE AIR TEMP	X								X		X
ZONE DAMPER		X									X
REHEATING VALVE		X							X		X
AIRFLOW SETPOINT					X				X		X
HEATING MODE						X			X		
HEATING SETPOINT									X		X
COOLING SETPOINT									X		X
HIGH ZONE TEMP										X	
LOW ZONE TEMP										X	
HIGH DISCHARGE AIR TEMP										X	
LOW DISCHARGE AIR TEMP										X	
TOTALS	3	2	0	0	1	1	0	0	8	4	8

TOTAL HARDWARE (5) TOTAL SOFTWARE (14)

3. RTU-3-1 (TYPICAL OF 1)

RUN CONDITIONS – CONTINUOUS:
THE UNIT SHALL RUN CONTINUOUSLY.

FREEZE PROTECTION:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A FREEZESTAT STATUS.

HIGH STATIC SHUTDOWN:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A HIGH STATIC SHUTDOWN SIGNAL.

SUPPLY FAN:
THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES. TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

SUPPLY AIR DUCT STATIC PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE DUCT STATIC PRESSURE AND SHALL MODULATE THE SUPPLY FAN VFD SPEED TO MAINTAIN A DUCT STATIC PRESSURE SETPOINT OF 1.5IN H2O (ADJ.). THE SUPPLY FAN VFD SPEED SHALL NOT DROP BELOW 30% (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH SUPPLY AIR STATIC PRESSURE: IF THE SUPPLY AIR STATIC PRESSURE IS 25% (ADJ.) GREATER THAN SETPOINT.
- LOW SUPPLY AIR STATIC PRESSURE: IF THE SUPPLY AIR STATIC PRESSURE IS 25% (ADJ.) LESS THAN SETPOINT.
- SUPPLY FAN VFD FAULT.

PREHEATING COIL STEAM VALVE:
THE CONTROLLER SHALL MEASURE THE MIXED AIR TEMPERATURE AND MODULATE THE PREHEATING COIL STEAM VALVE TO MAINTAIN ITS SETPOINT 5°F (ADJ.) LESS THAN THE SUPPLY AIR TEMPERATURE SETPOINT.

THE PREHEATING SHALL BE ENABLED WHENEVER:

- OUTSIDE AIR TEMPERATURE IS LESS THAN 60°F (ADJ.).
- AND THE ECONOMIZER IS DISABLED.
- AND THE SUPPLY FAN STATUS IS ON.

THE PREHEATING COIL STEAM VALVE SHALL OPEN FOR FREEZE PROTECTION WHENEVER:

- MIXED AIR TEMPERATURE DROPS FROM 40°F TO 35°F (ADJ.).
- OR THE FREEZESTAT IS ON.

SUPPLY AIR TEMPERATURE SETPOINT – FIXED:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE AND SHALL MAINTAIN FIXED SUPPLY AIR TEMPERATURE SETPOINTS AS FOLLOWS:

- THE SETPOINT SHALL BE 55°F (ADJ.).

COOLING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE SUPPLY AIR TEMPERATURE AND MODULATE THE COOLING COIL VALVE TO MAINTAIN ITS COOLING SETPOINT.

THE COOLING SHALL BE ENABLED WHENEVER:

- OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.).
- AND THE ECONOMIZER IS DISABLED OR FULLY OPEN.
- AND THE SUPPLY FAN STATUS IS ON.
- AND THE HEATING IS NOT ACTIVE.

THE COOLING COIL VALVE SHALL OPEN TO 50% (ADJ.) WHENEVER THE FREEZESTAT IS ON.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS 5°F (ADJ.) GREATER THAN SETPOINT.

COOLING COIL PUMP:
THE RECIRCULATION PUMP SHALL RUN WHENEVER:

- THE COOLING COIL VALVE IS ENABLED.
- OR THE FREEZESTAT IS ON.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- COOLING COIL PUMP FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
- COOLING COIL PUMP IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
- COOLING COIL PUMP RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.

ECONOMIZER:
THE CONTROLLER SHALL MEASURE THE MIXED AIR TEMPERATURE AND MODULATE THE ECONOMIZER DAMPERS IN SEQUENCE TO MAINTAIN A SETPOINT 2°F (ADJ.) LESS THAN THE SUPPLY AIR TEMPERATURE SETPOINT. THE OUTSIDE AIR DAMPERS SHALL MAINTAIN A MINIMUM ADJUSTABLE POSITION OF 20% (ADJ.) OPEN WHENEVER OCCUPIED.

THE ECONOMIZER SHALL BE ENABLED WHENEVER:

- OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
- AND THE OUTSIDE AIR TEMPERATURE IS LESS THAN THE RETURN AIR TEMPERATURE.
- AND THE SUPPLY FAN STATUS IS ON.

THE ECONOMIZER SHALL CLOSE WHENEVER:

- MIXED AIR TEMPERATURE DROPS FROM 40°F TO 35°F (ADJ.).
- OR THE FREEZESTAT IS ON.
- OR ON LOSS OF SUPPLY FAN STATUS.

THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE AND THE RETURN AIR DAMPER SHALL OPEN WHEN THE UNIT IS OFF. IF OPTIMAL START UP IS AVAILABLE THE MIXED AIR DAMPER SHALL OPERATE AS DESCRIBED IN THE OCCUPIED MODE EXCEPT THAT THE OUTSIDE AIR DAMPER SHALL MODULATE TO FULLY CLOSED.

MINIMUM OUTSIDE AIR VENTILATION – FIXED PERCENTAGE:
THE OUTSIDE AIR DAMPERS SHALL MAINTAIN A MINIMUM ADJUSTABLE POSITION DURING BUILDING OCCUPIED HOURS AND BE CLOSED DURING UNOCCUPIED HOURS.

PREFILTER DIFFERENTIAL PRESSURE MONITOR:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE PREFILTER.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- PREFILTER CHANGE REQUIRED: PREFILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

MIXED AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE MIXED AIR TEMPERATURE AND USE AS REQUIRED FOR ECONOMIZER CONTROL OR PREHEATING CONTROL.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH MIXED AIR TEMP: IF THE MIXED AIR TEMPERATURE IS GREATER THAN 90°F (ADJ.).
- LOW MIXED AIR TEMP: IF THE MIXED AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

RETURN AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE RETURN AIR TEMPERATURE AND USE AS REQUIRED FOR SETPOINT CONTROL OR ECONOMIZER CONTROL.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS GREATER THAN 90°F (ADJ.).
- LOW RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

SUPPLY AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS GREATER THAN 65°F (ADJ.).

LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

	HARDWARE POINTS				SOFTWARE POINTS						
POINT NAME	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	SHOW ON GRAPHIC
SUPPLY AIR STATIC PRESSURE	X								X	X	X
PREFILTER DIFFERENTIAL PRESSURE	X								X		
MIXED AIR TEMP	X								X		X
RETURN AIR TEMP	X								X		X
SUPPLY AIR TEMP	X								X		X
SUPPLY FAN VFD SPEED		X							X		X
PREHEATING STEAM VALVE		X							X		X
COOLING VALVE		X							X		X
MIXED AIR DAMPERS		X							X		X
FREEZESTAT			X						X	X	X
HIGH STATIC SHUTDOWN			X						X	X	X
SUPPLY FAN VFD FAULT			X							X	X
SUPPLY FAN STATUS			X						X		X
COOLING COIL PUMP STATUS			X						X		X
SUPPLY FAN START/STOP				X					X		X
COOLING COIL PUMP START/STOP				X					X		X
SUPPLY AIR STATIC PRESSURE SETPOINT					X				X		X
PREHEATING MIXED AIR TEMP SETPOINT					X				X		X
SUPPLY AIR TEMP SETPOINT					X				X		X
ECONOMIZER MIXED AIR TEMP SETPOINT					X				X		X
HIGH SUPPLY AIR STATIC PRESSURE										X	
LOW SUPPLY AIR STATIC PRESSURE										X	
SUPPLY FAN FAILURE										X	
SUPPLY FAN IN HAND										X	
SUPPLY FAN RUNTIME EXCEEDED										X	
HIGH SUPPLY AIR TEMP										X	
LOW SUPPLY AIR TEMP										X	
COOLING COIL PUMP FAILURE										X	
COOLING COIL PUMP IN HAND										X	
COOLING COIL PUMP RUNTIME EXCEEDED										X	
HIGH SUPPLY AIR HUMIDITY										X	
LOW SUPPLY AIR HUMIDITY										X	
PREFILTER CHANGE REQUIRED										X	X
HIGH MIXED AIR TEMP										X	
LOW MIXED AIR TEMP										X	
HIGH RETURN AIR HUMIDITY										X	
LOW RETURN AIR HUMIDITY										X	
HIGH RETURN AIR TEMP										X	
LOW RETURN AIR TEMP										X	
HIGH SUPPLY AIR TEMP										X	
LOW SUPPLY AIR TEMP										X	
TOTALS	5	4	5	2	4	0	0	0	19	25	20

TOTAL HARDWARE (16) TOTAL SOFTWARE (48)

4. WALK IN COOLER

RUN CONDITIONS – CONTINUOUS:
THE COOLER SHALL RUN CONTINUOUSLY.

COOLER STATUS:
THE CONTROLLER SHALL MONITOR THE COMPRESSOR STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH AIR TEMP: IF THE AIR TEMPERATURE IS GREATER THAN 45°F (ADJ.).

5. WALK IN FREEZER

RUN CONDITIONS – CONTINUOUS:
THE FREEZER SHALL RUN CONTINUOUSLY.

FREEZER STATUS:
THE CONTROLLER SHALL MONITOR THE COMPRESSOR STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

- HIGH AIR TEMP: IF THE AIR TEMPERATURE IS GREATER THAN 0°F (ADJ.).

	HARDWARE POINTS				SOFTWARE POINTS						
POINT NAME	AI	AO	BI	BO	AV	BV	LOOP	SCHED	TREND	ALARM	SHOW ON GRAPHIC
COMPRESSOR STATUS			X								X
COMPRESSOR START/STOP				X							X
HIGH AIR TEMP										X	
TOTALS	0	0	1	1	0	0	0	0	0	1	2

TOTAL HARDWARE (2) TOTAL SOFTWARE (1)

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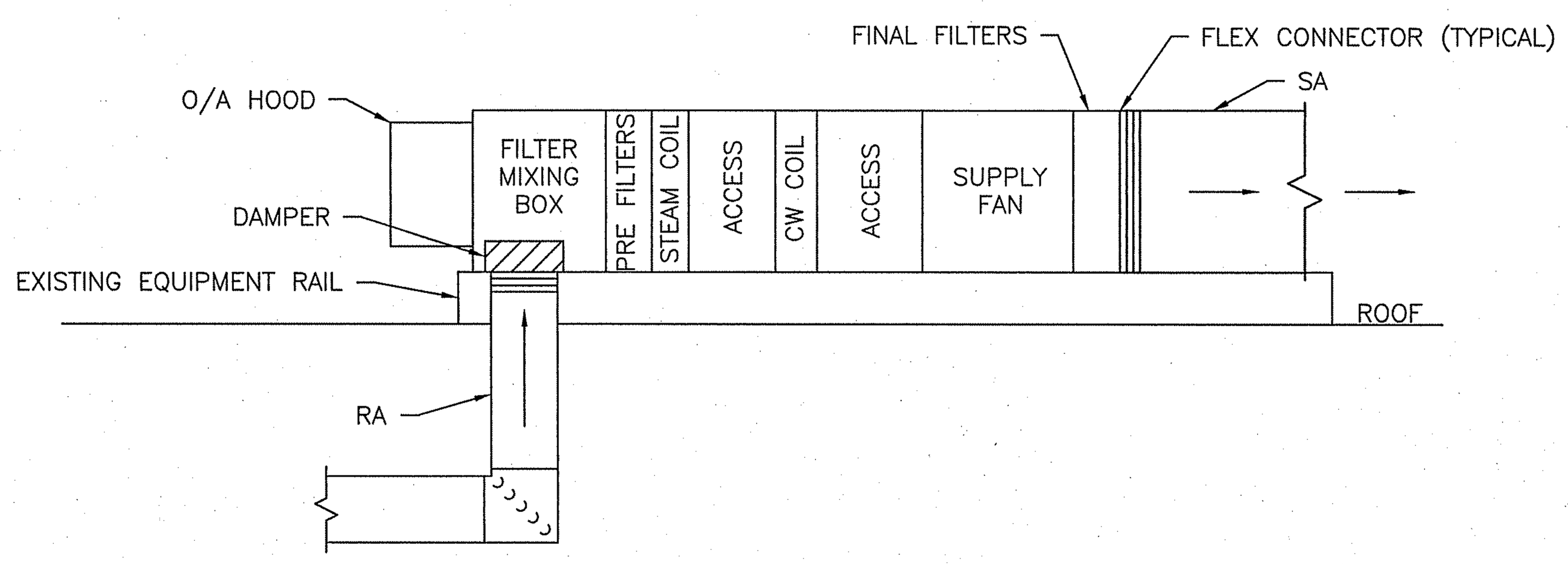
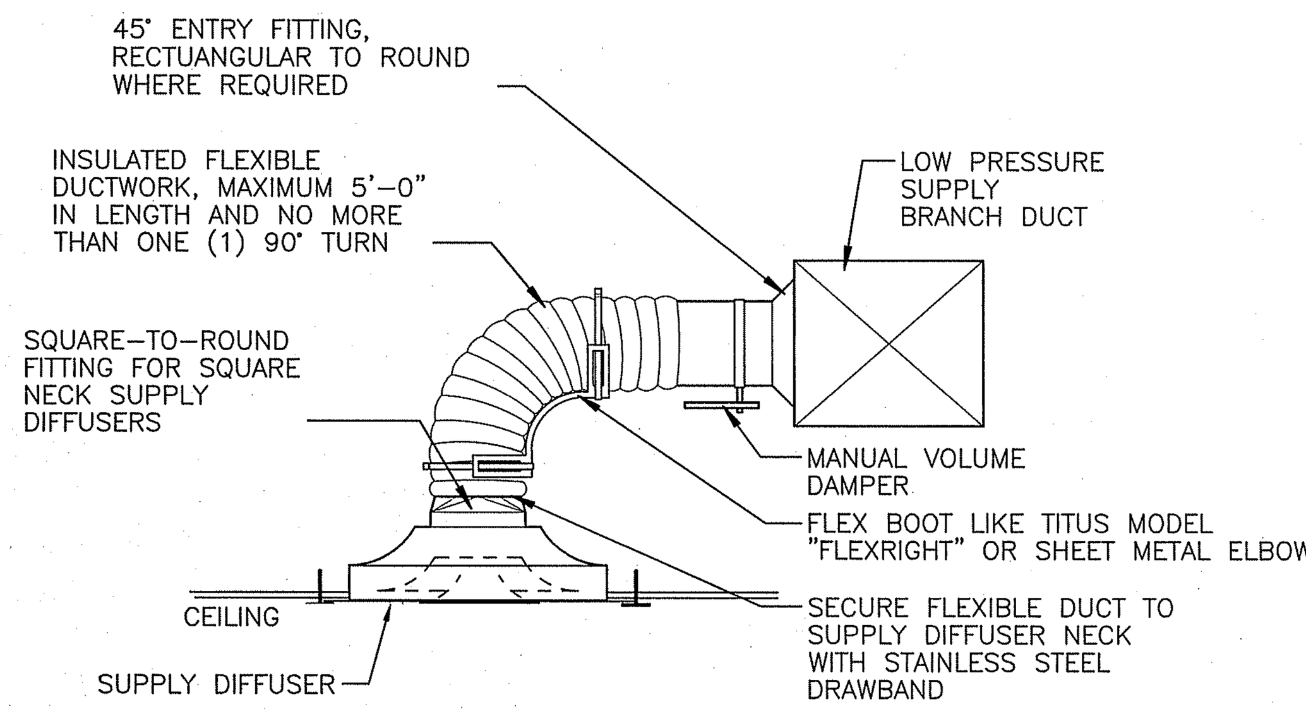
MECHANICAL SEQUENCE OF OPERATIONS

M-501



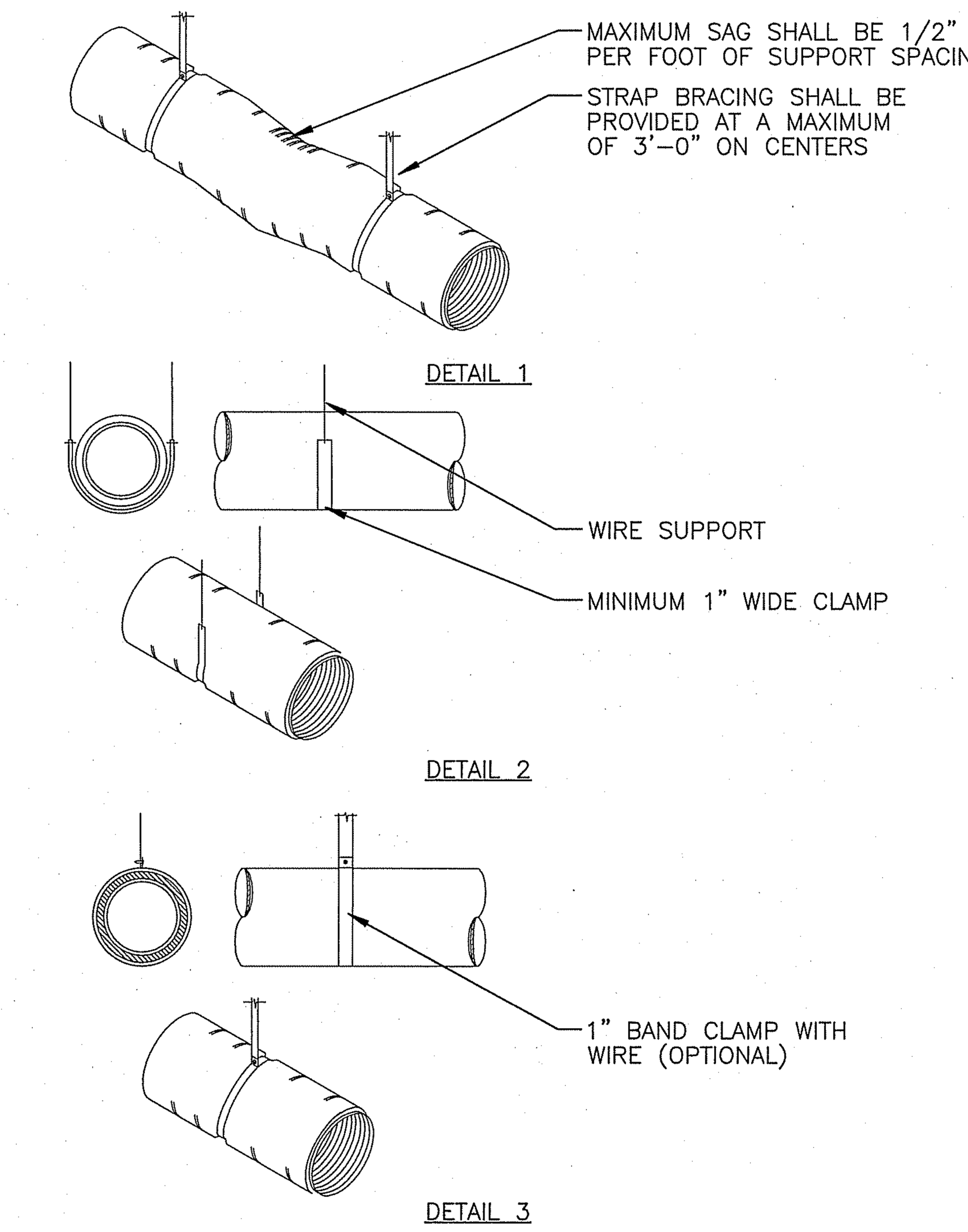
1 RTU DETAIL

SCALE: NO SCALE



2 SUPPLY DIFFUSER FLEXIBLE DUCT CONNECTION DETAIL

SCALE: NO SCALE

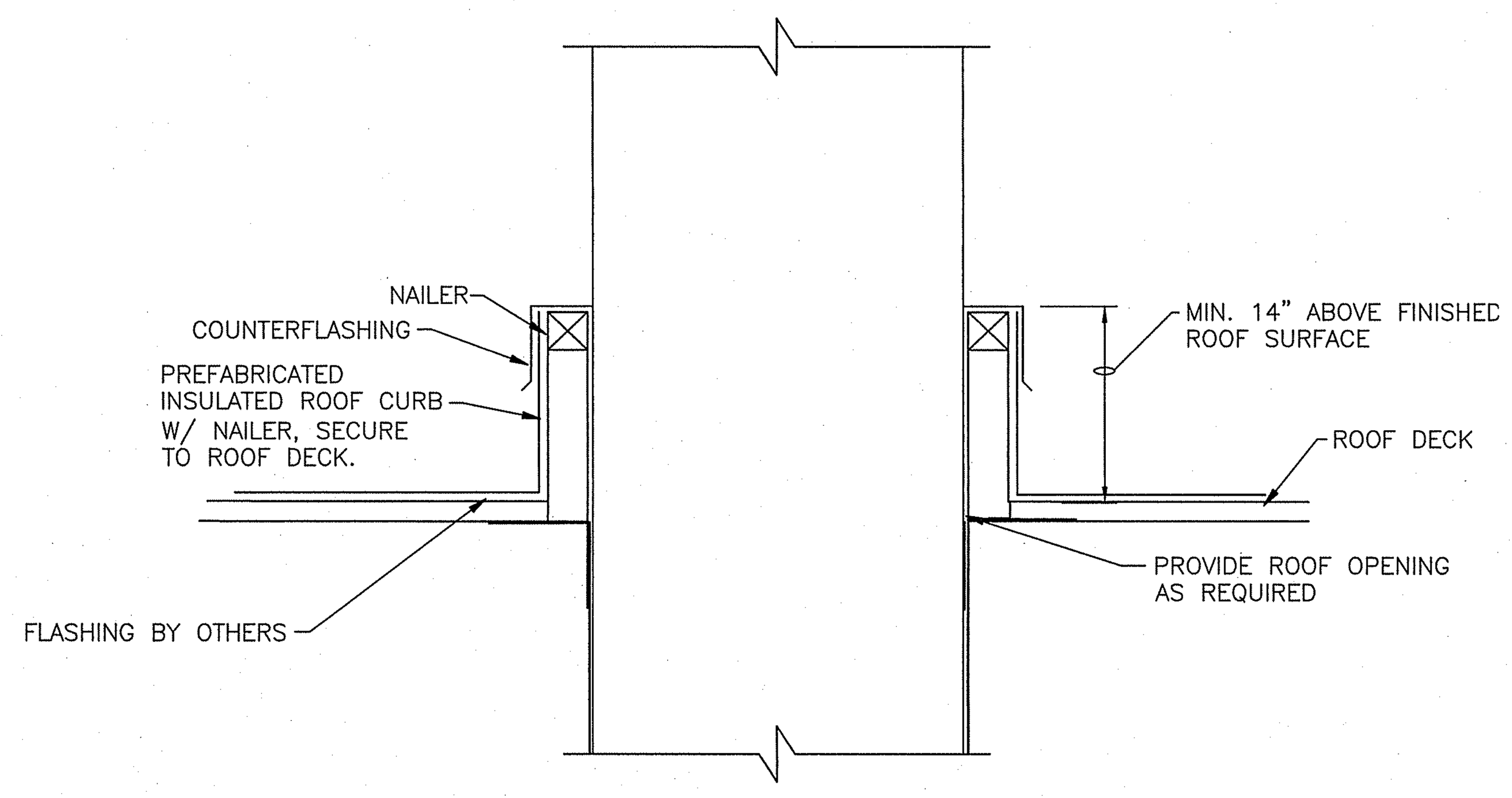


NOTES:

1. METALLIC FLEXIBLE DUCTWORK SHALL BE ATTACHED USING A MINIMUM OF THREE (3) #8 SHEET METAL SCREWS EQUALLY SPACED AROUND THE DUCTWORK CIRCUMFERENCE. DUCTWORK LARGER THAN 12" SHALL HAVE A MINIMUM OF FIVE (5) #8 SHEET METAL SCREWS. SCREWS SHALL BE LOCATED AT LEAST 1/2" FROM THE DUCTWORK END.
2. NON–METALLIC FLEXIBLE DUCTWORK SHALL BE SECURED TO THE SLEEVE OR COLLAR USING A DRAW BAND. IF THE DUCTWORK COLLAR EXCEEDS 12" THE DRAW BAND MUST BE POSITIONED BEHIND A BEAD ON THE METAL COLLAR.
3. INSULATION AND VAPOR BARRIERS PRESENT ON FACTORY–FABRICATED DUCTWORK SHALL BE FITTED OVER THE CORE CONNECTION AND SHALL BE SUPPLEMENTALLY SECURED WITH A DRAW BAND.
4. FLEXIBLE DUCTWORK SEALING SHALL BE A CLASS "B" SEAL FOR LOW PRESSURE DUCTWORK
5. SUPPORT SYSTEM SHALL NOT DAMAGE OR CAUSE OUT–OF–ROUND SHAPE.

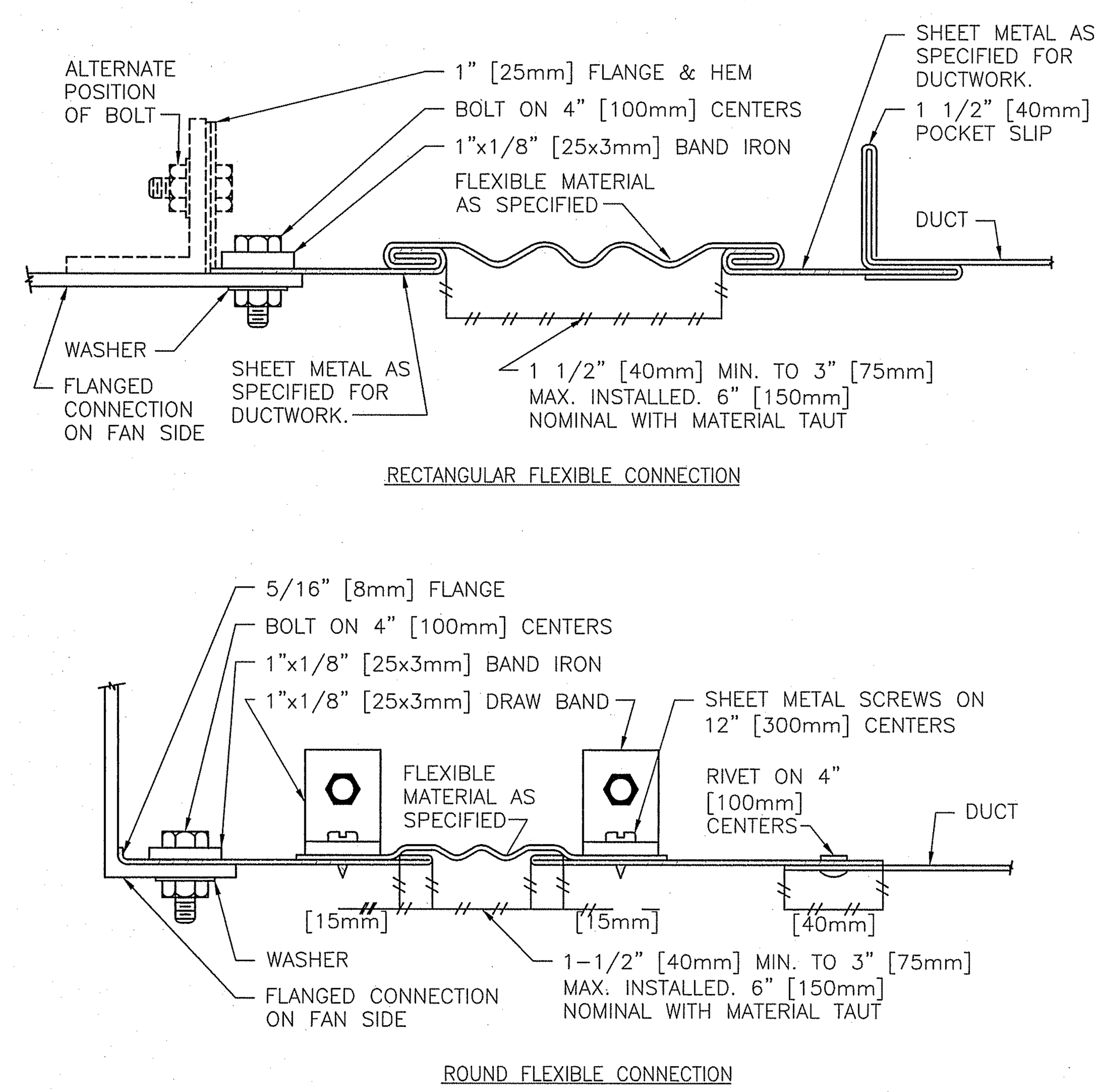
3 INSULATED FLEXIBLE DUCTWORK DETAIL

SCALE: NO SCALE



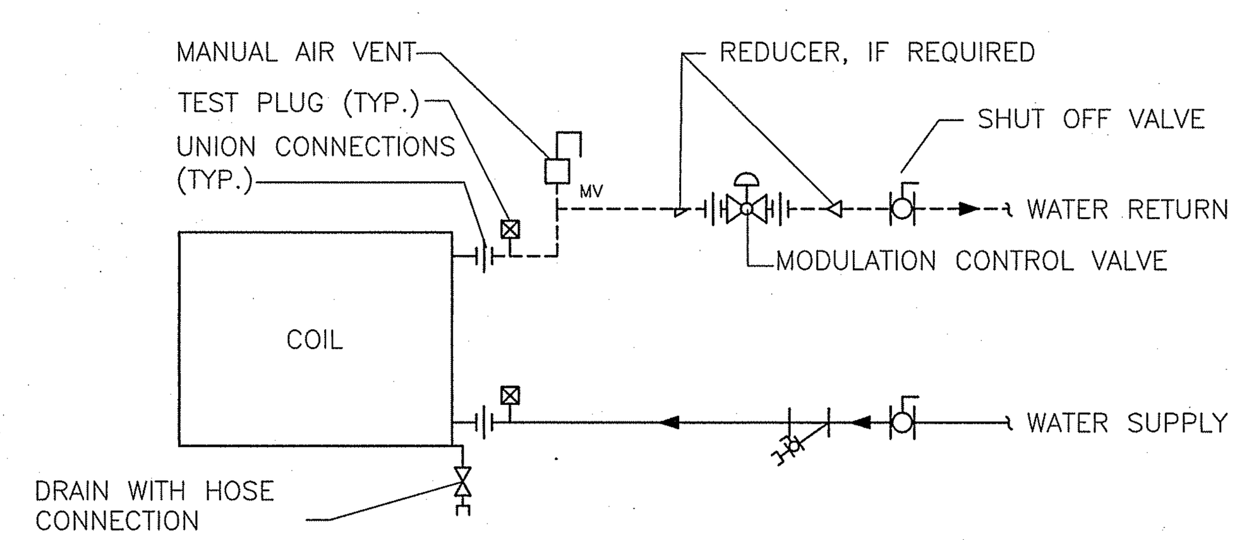
4 ROOF CURB DETAIL

SCALE: NO SCALE



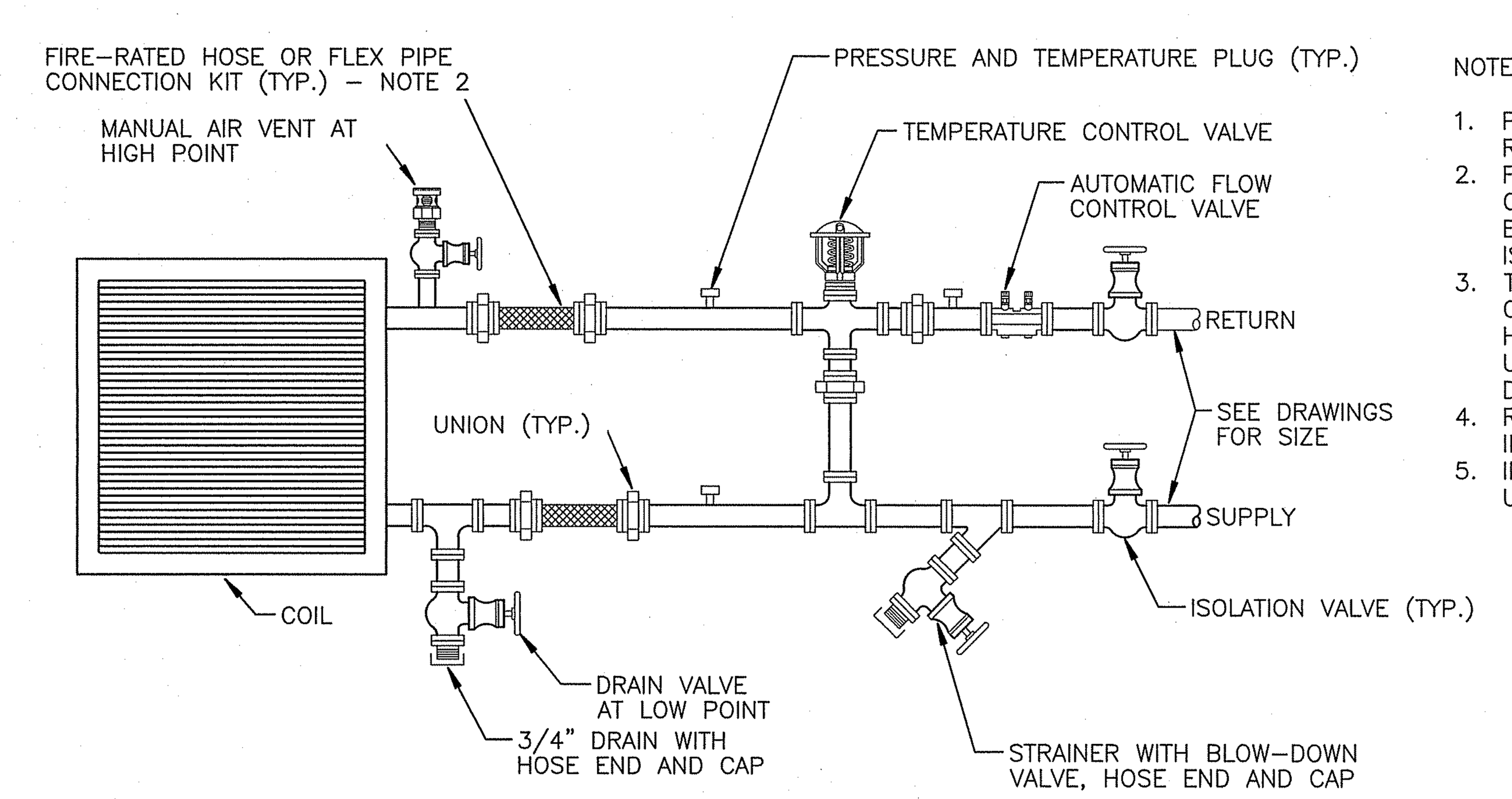
5 FLEXIBLE DUCT CONNECTION DETAIL

SCALE: NO SCALE



6 TERMINAL UNIT WATER COILS - PIPING CONNECTION DETAIL

SCALE: NO SCALE



NOTES:

1. PIPE COILS TO ALLOW COIL PULL BY REMOVING UNIONS ADJACENT TO COIL.
2. FIRE–RATED HOSE OR FLEX PIPE CONNECTIONS SHALL APPLY ONLY TO EQUIPMENT WITH EXTERNAL VIBRATION ISOLATION DEVICES.
3. THIS DETAIL APPLIES TO ALL EQUIPMENT COIL CONNECTIONS, EXCEPT AIR HANDLING UNITS, INCLUDING FAN COIL UNITS, TERMINAL UNITS, ETC. THAT ARE DESIGNATED FOR THREE–WAY CONTROL.
4. REFER TO SPECIFICATIONS FOR OPTIONS INVOLVING ACCESSORY COMBINATIONS.
5. INSTALL GROMMETS AT AIR HANDLING UNIT PIPE PENETRATIONS.

7 THREE–WAY COIL PIPING DETAIL

SCALE: NO SCALE

REVISIONS		
REVISION NO.	DATE	REMARKS

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COLORADO LICENSED PROFESSIONAL ENGINEER
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PE0048498
9/26/14

GRAND JUNCTION VAMC
DIETETICS - REPLACEMENT OF REFRIGERATORS AND FREEZERS
Dept. of Veterans Affairs 2121 North Avenue Grand Junction, CO 81501
100% CONSTRUCTION DOCUMENTS

DESIGNED: ACK	DRAWN: ACK
APPROVED: DMB	CHECKED: DMB

CLIENT PROJECT NUMBER
575-14-100

PROJECT NUMBER
13.1069

DATE
09/26/2014

MECHANICAL DETAILS

M-502

ROOFTOP UNIT SCHEDULE

TAG	NOMINAL CAPACITY	ALTITUDE	FAN					CHILLED WATER COOLING								STEAM HEATING					ELECTRICAL				
			SUPPLY AIRFLOW	OUTSIDE AIR	MIN OUTSIDE AIR	ESP	FAN MOTOR	TOTAL COOLING CAPACITY	SENSIBLE COOLING CAPACITY	EAT DB/WB	LAT DB/WB	CHILLED WATER				HEATING CAPACITY	EAT DB	LAT DB	STEAM		VOLT/PH	MCA	MOCP	WEIGHT	NOTES
	TONS	FT	CFM	CFM	CFM	IN W.C.	HP	MBH	MBH	°F	°F	EWT °F	LWT °F	GPM	ΔP FT H20	MBH	°F	°F	PRESSURE (PSI)	LBS/HR		AMPS	AMPS	LBS.	
RTU-3-1	3	4600	1230	460	460	1	3	38	38	82/61	55/54	45	55	6.5	5.55	68	7	55	30	77.8	208/3	7.4	20	2750	1-10

NOTES:
1. PROVIDE SINGLE POINT ELECTRICAL CONNECTIONS.
2. DEVIATIONS FROM DESIGN CRITERIA SHALL BE HIGHLIGHTED IN SUBMITTALS.
3. RTU BLOWER IS TO OPERATE CONTINUOUSLY WHEN BUILDING IS OCCUPIED.
4. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING AND INSTALLING EQUIPMENT.
5. MOUNT RTU ON EQUIPMENT RAILS WITH VIBRATION SPRING ISOLATORS ON MECHANICAL PLATFORM. COORDINATE WITH OTHER ROOFTOP EQUIPMENT.

NOTES CONT'D:
7. PROVIDE VFD
8. PROVIDE UNIT CONTROLLER COMPATIBLE WITH EXISTING BAS.
9. PROVIDE A GFCI RECEPTACLE.
10. PROVIDE DRY BULB ECONOMIZER.

PUMP SCHEDULE

TAG	SYSTEM	TYPE	FLOW	HEAD	NPSH AVAILABLE	TEMP	PROPYLENE GYLCOL	MIN % EFF	NOMINAL POWER	MAX BHP	PHASE	VOLT	MAX RPM	SPEED CONTROL	NOTES
			GPM	FT	FT	°F			HP	HP					
P-3-1	CHILLED WATER	IN LINE MOUNTED	6.5	30	1.5	45	0%	18.11	0.75	0.69	1.5	120	1150	VFD	1-4

NOTES:
1. SYSTEM OPERATES WITH 0% PROPYLENE GLYCOL SOLUTION.
2. PROVIDE DISCONNECT SWITCH.
3. PROVIDE VFD.
4. PROVIDE VIBRATION ISOLATION.

EXHAUST FAN SCHEDULE

TAG	TYPE	CFM	ESP	VOLTS/PH	HP (W)	RPM	SONES	WEIGHT (LBS)	NOTES
EF-1	CEILING MOUNTED	55	0.25	120/1	29	900	1.2	15	1-6

NOTES:
1. PROVIDE BACKDRAFT DAMPER.
2. DISCONNECT BY MANUFACTURER.
3. FAN SHALL OPERATE FROM WALL SWITCH.
4. PROVIDE A 12"x5" WALL DISCHARGE LOUVER RATED FOR EXTERIOR APPLICATIONS.
5. SPARK RESISTANT CONSTRUCTION.
6. PROVIDE SPEED CONTROLLER.

AIR TERMINAL UNIT SCHEDULE

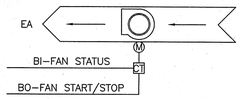
TAG	SIZE	ROOM(S) SERVED	CONTROL TYPE	MAX CFM	HOT WATER REHEAT					NOTES
					EAT °F	LAT °F	GPM	ΔP	MBH	
VAV-3-1	06	CHIEF'S OFFICE	CV	225	55	95	0.81	0.336	7.54	1-3
VAV-3-2	04	COUNSELOR	CV	100	55	95	0.5	0.15	5	1-3
VAV-3-3	04	COUNSELOR	CV	100	55	95	0.5	0.15	5	1-3
VAV-3-4	04	SCHEDULER	CV	110	55	95	0.5	0.15	5	1-3
VAV-3-5	04	WEIGHING	CV	135	55	95	0.5	0.15	5	1-3
VAV-3-6	04	RECEPTION	CV	150	55	95	0.54	0.174	5.86	1-3
VAV-3-7	04	CORRIDOR	CV	90	55	95	0.5	0.15	5	1-3
VAV-3-8	04	OFFICE	CV	120	55	95	0.5	0.15	5	1-3
VAV-3-9	05	OFFICE	CV	200	55	95	0.72	0.282	6.15	1-3

NOTES:
1. HOT WATER REHEAT COIL SELECTED BASED OFF 180°F EWT AND 160°F LWT (20°F ΔT).
2. CONTROLS CONTRACTOR SHALL BE RESPONSIBLE FOR RUNNING 24V POWER SUPPLY WIRING FROM TEMPERATURE CONTROL PANEL IN MECHANICAL ROOM TO VAV BOX.
3. VAV CONTROLLER TO BE PROVIDED BY TEMPERATURE CONTROL CONTRACTOR ROOM.

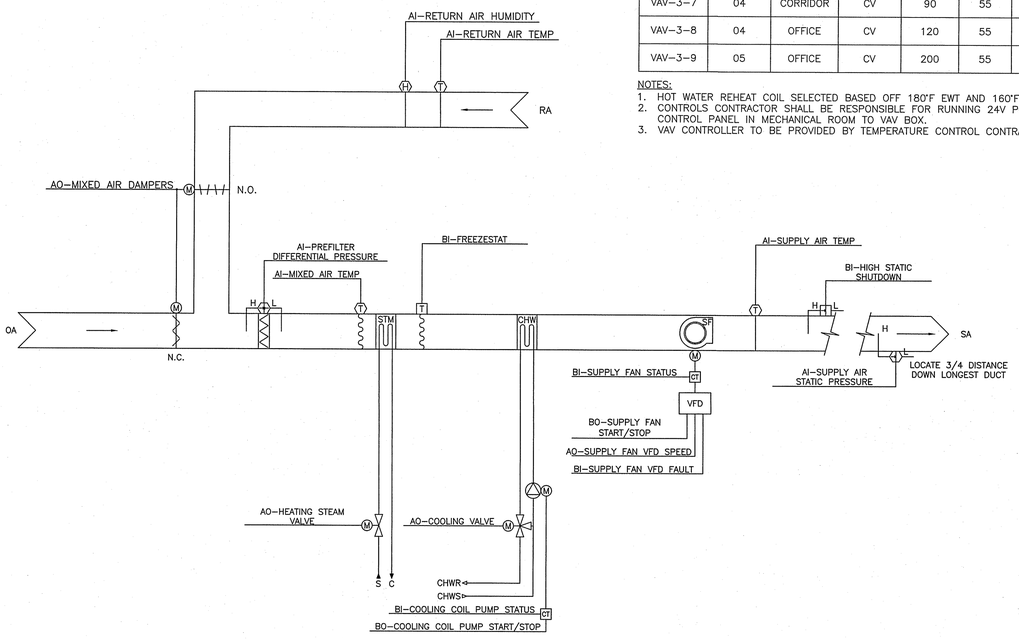
GRILLE AND DIFFUSER SCHEDULE

TAG	FRAME SIZE	NECK SIZE	MAX CFM	MAX NC	DESCRIPTION	NOTES
SD-1	24x24	6"ø	140	15	LAY-IN CEILING SQUARE PLAQUE, 4-WAY THROW	1,2,3
SD-2	24x24	8"ø	250	15	LAY-IN CEILING SQUARE PLAQUE, 4-WAY THROW	1,2,3
EG-1	12x12	--	280	15	STEEL CONSTRUCTION, 45° BLADES, 1/2" BLADE SPACING	1-4
RG-1	12x24	11x22	300	15	1/2"x1/2"x1/2" EGGCRATE, CEILING RETURN GRILLE	1-4
RG-2	24x24	22x22	500	15	1/2"x1/2"x1/2" EGGCRATE, CEILING RETURN GRILLE	1-4

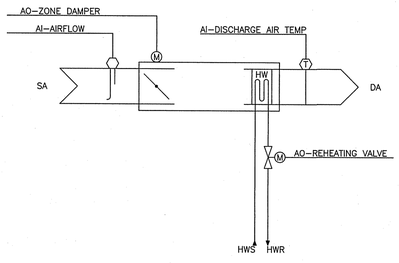
NOTES:
1. FRAMES SHALL MATCH CEILING TYPES.
2. COORDINATE FACTORY AVAILABLE COLOR WITH ARCHITECT.
3. CONTRACTOR TO COORDINATE CEILING TYPES WITH ARCHITECT BEFORE PURCHASING DIFFUSERS.
4. PROVIDE PLENUM BOX ON BACKSIDE OF GRILLE.



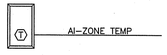
1 EXHAUST FAN SCHEMATIC
SCALE: NO SCALE



2 ROOFTOP UNIT SCHEMATIC
SCALE: NO SCALE



3 VAV BOX SCHEMATIC
SCALE: NO SCALE



REVISIONS

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DIETETICS - REPLACEMENT OF REFRIGERATORS AND FREEZERS

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DMB	DMB

CLIENT PROJECT NUMBER
575-14-100

PROJECT NUMBER
13.1069

DATE
09/26/2014

MECHANICAL SCHEDULES AND CONTROL SCHEMATICS

M-601

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL DEVICES, FIXTURES, EQUIPMENT AND FEEDERS SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, THE MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES, ALL APPLICABLE LOCAL AND STATE CODES, AMERICAN DISABILITIES ACT AND WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
2. PROVIDE ADDITIONAL SUPPORT FOR DEVICES, FIXTURES, EQUIPMENT AND FEEDERS WHERE THE BUILDING CONSTRUCTION IS NOT SUITABLE FOR DIRECT MOUNTING.
3. FIRESTOP, DRAFTSTOP, SMOKESTOP AND/OR PROTECT THE ANNULAR SPACE AROUND ALL PENETRATIONS THROUGH WALLS, PARTITIONS, FLOORS, CEILING, AND ROOFS IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, UL LISTING REQUIREMENT AND THE APPLICABLE BUILDING CODES. REFER TO THE ARCHITECTURAL DRAWINGS AND THE OWNER'S EXISTING AS-BUILT/RECORD DRAWINGS, VERIFY CONSTRUCTION RATINGS AND PROVIDE PENETRATION ASSEMBLIES SUITABLE FOR PARTICULAR CONSTRUCTION.
4. VERIFY CEILING SYSTEMS AND PROVIDE MOUNTING ACCESSORIES, TRIMS AND ALL REQUIRED MOUNTING HARDWARE TO SUIT THE PARTICULAR INSTALLATION.
5. PROTECT EXISTING UNDERGROUND AND BUILDING INTERIOR UTILITIES DURING CONSTRUCTION.
6. BRANCH CIRCUIT CONDUCTORS SHALL BE 12 AWG MINIMUM.
7. COORDINATE ANY AND ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION SO AS TO AVOID CONFLICT DURING CONSTRUCTION.
8. ALL PANELS SHALL HAVE TYPED, COMPLETED DIRECTORIES INDICATING EQUIPMENT SERVED AND ROOM NUMBER (AS INDICATED ON FINAL BUILDING ROOM SIGNAGE) OF EQUIPMENT LOCATION, OR SPARE, OR SPACE.
9. MANUFACTURER'S NAME AND MODEL NUMBER ARE GIVEN FOR DESCRIPTIVE PURPOSES, TO INDICATE A QUALITY STANDARD AND ARE NOT INTENDED TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DEEMED EQUAL AND APPROVED BY THE DESIGNER WILL BE ACCEPTED.
10. ALL FEEDERS AND CIRCUITRY SHALL BE TORQUED PER THE PANEL, BREAKER, AND/OR PARTICULAR EQUIPMENT MANUFACTURER'S SPECIFICATIONS.
11. CIRCUITRY TO SWITCHES, RECEPTACLES, AND ALL OTHER DEVICES SHALL BE TERMINATED ON THE DEVICE'S SCREW TERMINALS.
12. MOUNTING HEIGHTS INDICATED ARE TO CENTER OF DEVICE, OUTLET, FIXTURE, OR EQUIPMENT UNLESS NOTED OTHERWISE.
13. ALL WIRE TERMINATIONS SHALL BE RATED FOR 75 DEGREE C.
14. ALL CONDUCTORS SHALL HAVE THHN/THWN INSULATION, UNLESS OTHERWISE NOTED.
15. ALL CONDUIT SHALL BE EMT OR LFMC UNLESS OTHERWISE NOTED.
16. ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABEL LISTED BY AN APPROVED THIRD PARTY TESTING AGENCY.
17. FOR ALL LED FIXTURES, THE FIXTURE MUST BE CAPABLE OF SELF-RESETTING TO THE SWITCHED/CONTROLLED STATE DURING ANY FLUCTUATION IN POWER SUPPLY WHERE AUTOMATIC PROTECTIVE MEASURES DISABLE THE LED LAMPS. PROVIDE A LETTER OR STATEMENT FROM THE MANUFACTURER, OR OTHER ACCEPTABLE PROOF, THAT ALL LED FIXTURES, WITH OR WITHOUT BROWNOUT PROTECTION, WILL RETURN TO THE SWITCHED/CONTROLLED STATE AUTOMATICALLY. PROVIDE STATEMENT WITH FIXTURE SUBMITTALS.

GENERAL TECHNOLOGY NOTES

1. ALL COMMUNICATIONS DEVICES AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, THE MANUFACTURER'S RECOMMENDED PROCEDURES, ALL APPLICABLE LOCAL AND STATE CODES, AMERICAN DISABILITIES ACT AND WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND BICSI STANDARDS.
2. PROVIDE ADDITIONAL SUPPORT FOR DEVICES AND EQUIPMENT WHERE THE BUILDING CONSTRUCTION IS NOT SUITABLE FOR DIRECT MOUNTING.
3. FIRESTOP, DRAFTSTOP, SMOKESTOP AND/OR PROTECT THE ANNULAR SPACE AROUND ALL PENETRATIONS THROUGH WALLS, PARTITIONS, FLOORS, CEILING, AND ROOFS IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, UL LISTING REQUIREMENT AND THE APPLICABLE BUILDING CODES.
4. ALL CABLING SHALL COMPLY WITH THE LATEST EDITION OF TELECOMMUNICATIONS DISTRIBUTION METHOD MANUAL AND ANSI/TIA/EIA PUBLICATIONS.
5. COMPLY WITH ANSI/TIA/EIA 758 AND 607B OR A – GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS IN COMMERCIAL BUILDING.
6. COMPLY WITH ANSI/TIA/EIA 568B – COMMERCIAL BUILDING TELECOMMUNICATIONS WIRING STANDARD.
7. COMPLY WITH ANSI/TIA/EIA 569B – COMMERCIAL BUILDING STANDARD FOR TELECOMMUNICATIONS PATHWAYS AND SPACES.
8. COMPLY WITH NFPA 70 NATIONAL ELECTRIC CODE.
9. COMPLY WITH NFPA 99 HEALTHCARE FACILITIES CODE.
10. COMPLY WITH NFPA101 LIFE SAFETY CODE.
11. COMPLY WITH VA STANDARDS.
12. COORDINATE ANY AND ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION SO AS TO AVOID CONFLICT DURING CONSTRUCTION.
13. MANUFACTURER'S NAME AND MODEL NUMBER ARE GIVEN FOR DESCRIPTIVE PURPOSES, TO INDICATE A QUALITY STANDARD AND ARE NOT INTENDED TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DEEMED EQUAL AND APPROVED BY THE DESIGNER SHALL BE ACCEPTED. ALL PRODUCTS MUST COMPLY WITH "BUY AMERICAN ACT".
14. MOUNTING HEIGHTS INDICATED ARE TO BOTTOM OF DEVICE, BOXES, OUTLET, OR EQUIPMENT UNLESS NOTED OTHERWISE.
15. ALL CONDUITS SHALL BE RGS OR EMT UNLESS OTHERWISE NOTED.
16. ALL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABEL LISTED BY AN APPROVED THIRD PARTY TESTING AGENCY.
17. ANY DISCREPANCY BETWEEN PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE VA COR AND ENGINEER OF RECORD FOR CLARIFICATION. THE MORE STRINGENT OF THE TWO WILL TAKE PRECEDENCE.
18. A CORRIDOR, ROOM, OR ADJACENT SPACE WITH TWO OR MORE VISIBLE FIRE ALARM NOTIFICATION APPLIANCES WITHIN THE FIELD OF VIEW SHALL FLASH IN SYNCHRONIZATION.

ABBREVIATIONS

A	AMP
ACT	ABOVE COUNTER TOP/BACKSPLASH
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPS INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
C	CONDUIT
cd	CANDELA
CKT	CIRCUIT
CU	COPPER
D	DEEP
DACT	DIGITAL ALARM COMMUNICATOR TERMINAL
DAS	DISTRIBUTED ANTENNA SYSTEM
DED	DEDICATED CIRCUIT
EG	EQUIPMENT GROUND
EMT	ELECTRICAL METALLIC TUBING
EX	EXISTING
EXT	EXTERIOR
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM REMOTE ANNUNCIATOR
FLA	FULL LOAD AMPS
FMC	FLEXIBLE METAL CONDUIT
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
H	HIGH
HP	HORSEPOWER
IBC	INTERNATIONAL BUILDING CODE
IG	ISOLATED GROUND
KW	KILOWATT
MBJ	MAIN BONDING JUMPER
MC	METAL-CLAD CABLE
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
N	NEUTRAL
NAC	NOTIFICATION APPLIANCE CABINET
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NTS	NOT TO SCALE
OC	ON CENTER
PAMN	PUBLIC ADDRESS MASS NOTIFICATION
PC	PHOTOCELL
R	RELOCATED
TCL	TOTAL CONNECTED LOAD
TDL	TOTAL DEMAND LOAD
TVSS	TRANSIENT VOLTAGE SURGE & SPIKE
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTED POWER SUPPLY
W	WATT(S)
WP	WEATHERPROOF
XFMR	TRANSFORMER

ELECTRICAL LEGEND

S	SINGLE POLE SWITCH, MOUNTED 44" AFF UNO MODIFIERS FOR SWITCHES: 3 = THREE WAY 4 = FOUR WAY DM = DIMMER SWITCH OC = OCCUPANT SENSOR DR = DUAL RELAY
	DUAL-TECHNOLOGY, CEILING MOUNTED, LOW VOLTAGE OCCUPANCY SENSOR
	OCCUPANCY SENSOR SWITCHPACK, WIRE PER MANUFACTURER'S RECOMMENDATIONS.
	120V DUPLEX RECEPTACLE, MOUNTED 18" AFF. UNO MODIFIERS FOR RECEPTACLES: GFI = GROUND FAULT CIRCUIT INTERRUPTER. WP = WEATHERPROOF A = MOUNTED 3" ABOVE COUNTERTOP/BACKSPLASH
	120V SIMPLEX RECEPTACLE, MOUNTED 18" AFF. UNO
	120V QUAD RECEPTACLE, MOUNTED 18" AFF. UNO
	220V DUPLEX RECEPTACLE, MOUNTED 18" AFF. UNO
	TELCO OUTLET, MOUNTED 18" AFF UNO MODIFIERS FOR TELCO OUTLETS: W = WALL-MOUNTED 54" AFF
	DATA OUTLET, MOUNTED 18" AFF UNO
	DATA/TELCO OUTLET WITH (1) TELCO AND (3) DATA JACKS, MOUNTED 18" AFF UNO
	TV/CABLE OUTLET (FEMALE TYPE F CONNECTOR), MOUNTED 18" AFF UNO
	SECURITY SYSTEM CAMERA, FIXED, CEILING-MOUNTED
CR	SECURITY SYSTEM CARD READER, MOUNTED 42" AFF UNO
KP	SECURITY SYSTEM KEYPAD, MOUNTED 42" AFF UNO
DH	ELECTROMAGNETIC DOOR HOLD-OPEN DEVICE
ADO	AUTOMATIC DOOR OPENER
PB	PUSHBUTTON
IC	INTERCOM STATION
W	WIFI ANTENNA, CEILING MOUNTED UNO
W_C	CISCO WIFI ANTENNA, CEILING MOUNTED UNO
W_A	CONE-TYPE COMMUNICATIONS ANTENNA, CEILING MOUNTED UNO
W	WIFI ANTENNA, WALL MOUNTED 84" AFF UNO
C	CLOCK, WALL MOUNTED 84" AFF UNO
S	PUBLIC ADDRESS MASS NOTIFICATION SPEAKER, CEILING MOUNTED
S	PUBLIC ADDRESS MASS NOTIFICATION SPEAKER, WALL MOUNTED 84" AFF UNO
S	PUBLIC ADDRESS MASS NOTIFICATION SPEAKER W/ ALERT STROBE, WALL MOUNTED 84" AFF UNO
Z	NURSE CALL ZONE LIGHT: CEILING MOUNTED
$\square_{PC}$	PHOTOELECTRIC CELL
J	JUNCTION BOX
	FUSED DISCONNECT
	UNFUSED DISCONNECT
	WIRING SYSTEM-BRANCH OR FEEDER CIRCUIT
	WIRING SYSTEM-SWITCHED BRANCH OR FEEDER CIRCUIT
	BRANCH OR FEEDER CIRCUIT HOMERUN TO PANELBOARD, SWITCHBOARD, MOTOR CONTROL CENTER, ETC. SUBSCRIPT DENOTES PANELBOARD, SWITCHBOARD, MOTOR CONTROL CENTER, ETC. AND OVERCURRENT PROTECTION DEVICE NUMBER. HOMERUN – 208V OR 480V HOMERUN – 120V OR 277V

FIRE ALARM LEGEND

	FIRE ALARM SPEAKER/STROBE LIGHT-WALL MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" AFF.
	FIRE ALARM STROBE LIGHT-WALL MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" AFF.
	FIRE ALARM SPEAKER/STROBE LIGHT-CEILING MOUNTED SUCH THAT THE ENTIRE LENS IS NOT GREATER THAN 10'-0" AFF.
	FIRE ALARM STROBE LIGHT-CEILING MOUNTED SUCH THAT THE ENTIRE LENS IS NOT GREATER THAN 10'-0" AFF.
F	MANUAL FIRE ALARM PULL STATION TO BE LOCATED WITHIN 5 FT OF THE EXIT DOORWAY OPENING. MIN 42" AFF, MAX 48" AFF.
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR
S	SMOKE DETECTOR
H	HEAT DETECTOR
S_D	SMOKE DUCT DETECTOR
FS	FLOW SWITCH
TS	TAMPER SWITCH

LIGHT FIXTURE SCHEDULE

SYMBOL	LABEL	# OF LAMPS	TYPE OF LAMP	BALLAST/ DRIVER	WATTS/ FIXTURE	VOLTAGE	DESCRIPTION	MANUFACTURER/CATALOG NUMBER
	---	2	FLUOR.	1	62	120	EXISTING 4' LONG SURFACE MOUNT FLUORESCENT WRAPAROUND FIXTURE	N/A
	---	---	FLUOR.	---	---	120	EXISTING 2' X 4' RECESSED FLUORESCENT FIXTURE	N/A
	---	---	FLUOR.	---	---	120	EXISTING 8' LONG FLUORESCENT FIXTURE	N/A
	---	---	FLUOR.	---	---	120	EXISTING 2' FLUORESCENT STRIP FIXTURE	N/A
	A	LED 5900 LUMENS	LED 4000K	1	63	120	4' LED WET LOCATION LINEAR LUMINAIRE	CREE MODEL# WS4-59L-40K-10V-FD-SSL OR APPROVED EQUIVALENT
	B	LED 4800 LUMENS	LED 4000K	1	49	120	2'x4' RECESSED A19 ACRYLIC LENSED LED TROFFER	COOPER MODEL# 2GR-LD1-48-A19/156-UNV-L840-CD1 OR APPROVED EQUIVALENT
	C	LED 4000 LUMENS	LED 4000K	1	40	120	2'x4' RECESSED DIRECT/INDIRECT LED	CREE MODEL# CR24-40L-40K OR APPROVED EQUIVALENT
	D	LED 4800 LUMENS	LED 4000K	1	50	120	4' LENSED LED STRIPLIGHT	COOPER/METALUX MODEL# SNLED-LD1-LN-UNV-L840-CD1 OR APPROVED EQUIVALENT

NOTES:
1. CATALOG PART NUMBERS SHOWN ARE FOR DESCRIPTIVE AND QUALITY STANDARDS ONLY, NOT TO BE USED FOR ORDERING WITHOUT VERIFICATION. ENGINEER SHALL NOT BE RESPONSIBLE FOR MISMATCHED OR INACCURATE PART NUMBERS.
2. EM – EMERGENCY BATTERY BACK UP (USE TWO LAMP EMERGENCY BALLAST WHERE ONLY A SINGLE FIXTURE IS VISIBLE)
NL – NIGHT LIGHT
R – RELOCATED
3. ALL FLUORESCENT LIGHT FIXTURES MUST HAVE INDIVIDUAL DISCONNECTING MEANS LOCATED AT EACH FIXTURE.

FIRE ALARM GENERAL NOTES

1. FIRE ALARM SYSTEM AND COMPONENTS SHALL BEET THE FOLLOWING CODES:
   - A. NFPA 13-STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEM.
   - B. NFPA 14-STANDARD FOR THE INSTALLATION OF STANDPIPE SYSTEM.
   - C. NFPA 20-STANDARD FOR THE INSTALLATION OF FIRE PUMP
   - D. NFPA 70 NATIONAL ELECTRIC CODES.
   - E. NFPA 72 NATIONAL FIRE ALARM CODE.
   - F. NFPA 90A STANDARD FOR THE INSTALLATION OF AIR CONDITIONING.
   - G. NFPA 101 LIFE SAFETY CODE.
   - H. VA STANDARDS.
   - I. ANDI S3.41 AUDIBLE EMERGENCY EVACUATION.
2. FIRE ALARM SYSTEM SHALL COMPLY WITH FACTORY MUTUAL RESEARCH CORPORATION (FM).
3. ALL FIRE ALARM CABLING SHALL BE IN CONDUIT. CONDUIT SHALL BE PAINTED RED.
4. THE CONTRACTOR IS RESPONSIBLE FOR TESTING THE EXISTING FIRE ALARM SYSTEM IN THE AREA OF WORK AND ADJACENT AREAS FULLY, PRIOR TO THE START OF WORK. ANY DEFICIENCY OR NON-OPERATION COMPONENTS OF THE FIRE ALARM SYSTEM SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER AT THAT TIME. UPON COMPLETION OF WORK, THEY AFFECTED AREA OF THE WORK AND ADJACENT AREAS SHALL AGAIN BE FULLY TESTED 100%. ANY PORTION OF THE FIRE ALARM SYSTEM WHICH IS NON-FUNCTIONAL OR NON-COMPLIANT WITHIN THE AREA OF WORK OR ADJACENT SPACES AT THAT TIME, SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

REVISIONS		
REVISION NO.	DATE	REMARKS

Interior Design
COOVERCLARK ASSOCIATES
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SUSTAINABLE ARCHITECTURE + ENGINEERING

COLORADO REGISTERED PROFESSIONAL ENGINEER 35500 9/26/14

GRAND JUNCTION VAMC
DIETETICS - REPLACEMENT OF REFRIGERATORS AND FREEZERS
Dept. of Veterans Affairs 2121 North Avenue Grand Junction, CO 81501
100% CONSTRUCTION DOCUMENTS

DESIGNED: RSB	DRAWN: EAG
APPROVED: JMB	CHECKED: JAV

CLIENT PROJECT NUMBER: 575-14-100
PROJECT NUMBER: 13.1069
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ELECTRICAL NOTES AND LEGENDS

E001